

The Hudson Bay Route

AND THE PORT OF

Churchill

IN THE CENTRE OF CANADA

A handbook regarding the Hudson Bay route has been issued by Hon. J. A. Merviel, Minister of Railways, Labor and Industries, of Saskatchewan. It presents succinctly much information regarding the Bay route, and reviews the period of discovery and exploration. Distance tables and freight-rate schedules are included in the booklet, also useful information regarding the Churchill port facilities. The handbook, it is hoped, will prove helpful overseas in directing attention to Saskatchewan's natural resources and wealth, and attract capital to develop Provincial industries and trade.

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and the Port of
CHURCHILL
in the Centre of Canada



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FOREWORD



HON. J. A. MERKLEY, M.L.A.
Minister of Railways, Labour and
Industries

and countries overseas. The information herein given quickly sketches the development which has marked the progress of the "Bay" project to date, but if greater detail is sought the Department will be glad to answer any inquiries.

We must continue to safeguard the best interests of the "Bay" route to the limit of our ability. Obviously there are problems to be faced, and difficulties to be overcome, but the realization of them should act as an incentive for determined and combined effort on the part of all interested in securing the success of the route.

The Government of Saskatchewan is anxious and willing to do its share. We feel also that we can depend upon the continued good will of the farmers' organizations, the On-to-the Bay Association, the various Boards of Trade, the Retail Merchants' Association, and others who share our anxiety to reap the maximum benefits and attain the fulfilment of the prosperous destiny of the route which we believe to be its rightful due.

As stated recently in the legislature, one of the most difficult problems to be surmounted is that of securing westbound cargo-for the ships trading to Churchill. Ship owners naturally look for some revenue on the westbound leg of the trip instead of sending the ships over in ballast. The

RESULTING from the deep concern which the Government feels regarding the development of the Hudson Bay route, it was decided last year that the Department of Railways, Labour and Industries should set up an organization with the view to stimulating interest in the project, and to encourage the development of traffic over the route.

It was also felt that the need had arisen for the Government to issue a handbook dealing succinctly with the Hudson Bay route. This handbook, therefore, has been prepared to furnish information of general present-day interest, omitting extended historical and other data elsewhere procurable, so as to keep the handbook within reasonable space and cost, and permit of its wider distribution in Canada

Hudson Bay route must be made a two-way proposition, and we are hopeful that the business interests will issue routing instructions in connection with the movement of their westbound traffic, to help achieve this very desirable result.

The development of general freight, such as agricultural products other than grain, for the eastward voyage is also very desirable as this provides a balanced cargo, produces more revenue for ships, and thus makes Churchill more attractive to ship owners when allocating their tonnage to the various world trade routes.

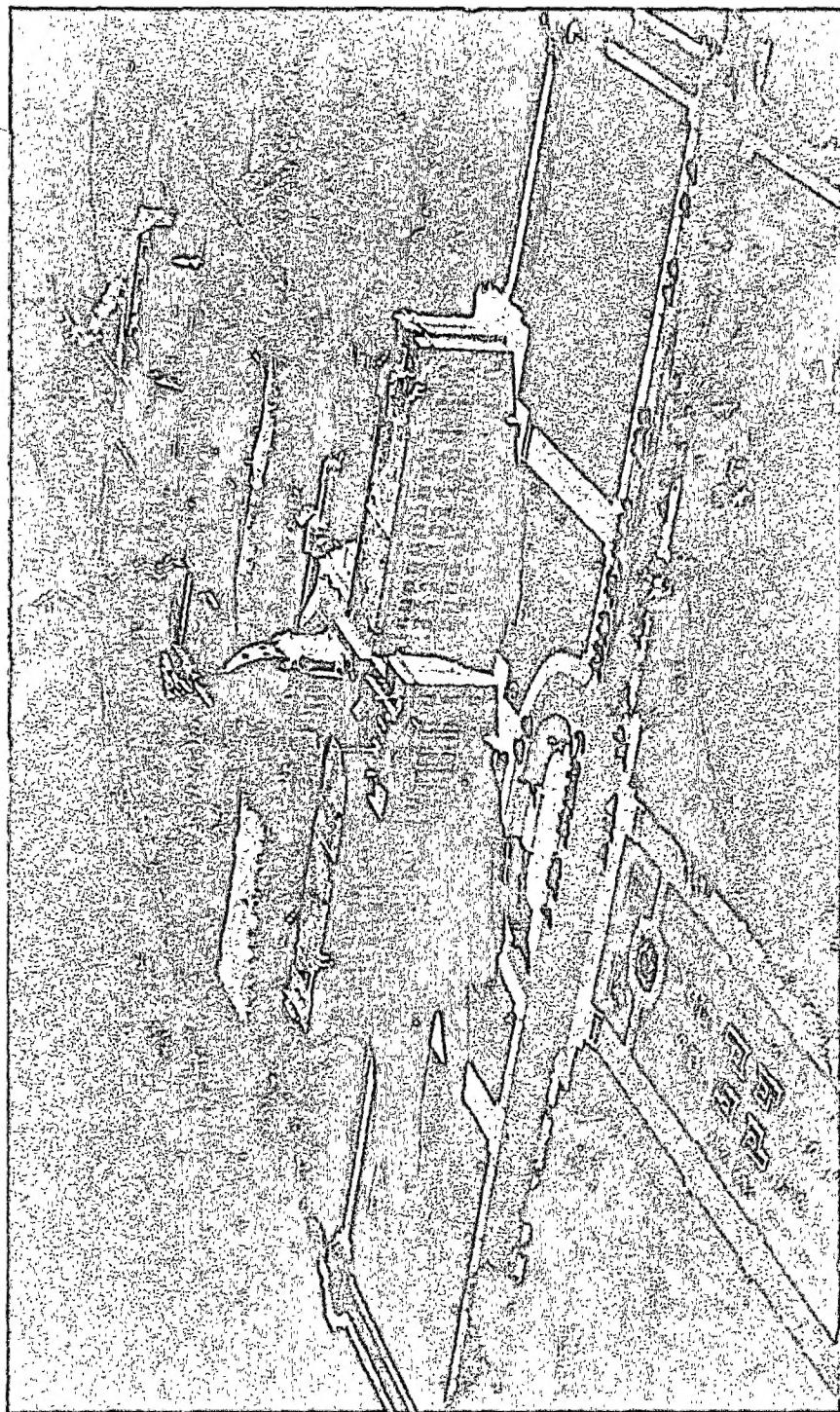
The strategic position of Churchill with its splendid port facilities, combined with the saving in time of shipments en route, and favorable freight rates by comparison with other eastern Atlantic terminals, offers compelling inducements to exporters and importers generally, whose full co-operation and support is confidently expected to build up the new route.

Our objective is to record in 1933 a Hudson Bay season of unparalleled progress, with Churchill flourishing and its excellent facilities worked to capacity. That old fighting and determined spirit to succeed, so characteristic of our people, will, I am sure, assert itself and demonstrate to the world that beyond any question or doubt the Hudson Bay route is commercially and economically sound.

J. A. MERKLEY,
Minister of Railways, Labour and Industries.

Regina, May 31st, 1933.

AIR VIEW OF LEGISLATIVE BUILDINGS, REGINA



Brief Historical Review

AS a foundation for a study of the Hudson Bay route some knowledge, however limited, of its history is essential. Space in this handbook will not permit of more than the briefest outline, but more detailed information can be secured from government publications and books in public libraries.

Historically, the Hudson Bay region is of outstanding interest in Canadian and Empire development. The territory has enjoyed a longer tenure under one flag (British) than any other extensive part of the New World, and such stupendous development as has taken place, with all that it embraces, surpasses anything recorded in modern history.

Hudson bay and Hudson strait are the waters involved in the Hudson Bay route. The bay, including James bay, measures nearly 1,000 miles from north to south and 600 miles from east to west at its greatest breadth. Hudson strait is about 500 miles long and has an average width of over 100 miles.

Hudson bay cuts deeply into the northern interior of Canada, providing a great inland sea reaching into the centre of the Dominion. The total area of the Hudson Bay drainage basin is about 1,500,000 square miles.

During the season of navigation the Hudson Bay route is not intricate. The route is wide, remarkably free from shoals, and the 900-mile stretch from the east entrance of Hudson strait to a position off Churchill is made in only four courses. The Hudson's Bay Company's vessels have traversed the route for over 250 years with the loss of only two or three ships.

Churchill is the port which has been selected as the terminus of the Hudson Bay Railway, and the harbor for shipping. At Churchill nature has provided a magnificent and completely sheltered harbor where splendid shipping facilities have been provided, and are being extended from time to time as traffic develops.

The Hudson Bay Railway runs between Churchill and The Pas, and connects with a network of railways covering the entire North American continent.

DISCOVERY, EXPLORATION AND DEVELOPMENT

The period of discovery began the year after the mainland of America was discovered, for it is now generally conceded that Cabot, in his second voyage of 1498, coasted as far north as the entrance to Hudson strait. Then followed a thrilling series of expeditions by English vessels.

In 1610 Henry Hudson in his little ship, the "Discovery," sailed through the northern straits and found himself in the waters of Hudson bay, both bay and straits being named after him. He was really in quest of a northwest passage to India, as the scholars of his day were sure that the "Indies" could be reached by sailing a westward course. As it turned out, he was compelled to winter on the shores of the bay, and later perished after being cast adrift by his mutinous crew.

In 1668 an important event, fraught with illimitable "large scale" possibilities, occurred when on June 3rd Prince Rupert and other notables

rowed to the "Nonsuch," a small vessel of 50 tons, lying in the Thames waiting to sail for Hudson bay. The success of the voyage was toasted by Prince Rupert in the captain's cabin, and a few hours later the "Nonsuch" weighed anchor and started on her momentous voyage.

She passed through Hudson bay, to the south of James bay, which she reached on September 29th. Here the voyagers wintered and did an active trade with the Indians with the result that the "Nonstich" sailed for England the following summer fully loaded with a cargo of furs. It was the success of this venture which really led to the organization of the Hudson's Bay Company.

Following discovery came a period of exploration. In 1670, King Charles II granted a charter to the "Governor and Company of Adventurers of England trading into Hudson's Bay" and their successors, this corporate title being later changed to the "Hudson's Bay Company," after amalgamation with The Northwest Company. The charter constituted them "the true and absolute lords and proprietors" of that vast, practically unknown, territory draining into Hudson bay, more than half as large as Europe, and gave them the sole trade and commerce rights in that region. By the terms of its charter the company was called upon to carry out exploratory work, which it did extensively. Other expeditions were also undertaken.

Development was the natural result of discovery and exploration. From part of the land conveyed by the charter to the aristocratic company of adventurers of England in the mid-seventeenth century, have been carved the provinces of Manitoba, Saskatchewan and Alberta, which have been found to contain enormous agricultural, mineral, forest, and other wealth of natural resources. Cities and towns have reared their heads where only tiny trading forts existed. King Wheat now reigns supreme where the buffalo was once proud monarch. Aerial and railway transport have succeeded the birchbark canoe and dog-sleigh. Steamers have displaced sailing ships plying to and from Hudson bay and revolutionized transportation between western Canada and the world's markets. Canada now has a seaport, Port Churchill, in the centre of her dominion. Wireless has overcome the isolation of the northern trading posts, and proved a boon in other directions, including the navigation of Hudson bay and straits. Rich mines are being worked in districts which were formerly the roaming and grazing grounds of wild animals.

The activities of the Earl of Selkirk resulted in the establishment of the Red River Colony, the beginning of the present vast agricultural settlements of the western prairies. In 1812 he brought in his settlers by way of York Factory, and thus the first line of communication between western Canada and the Old Country was by way of the Hudson Bay route.

An era of colonization that could not be checked was forced upon the Hudson's Bay Company. The surrendering of territorial rights that the company had long enjoyed became inevitable. When Canada came into existence in 1867 the British statesmen of the day decided that the territory logically should belong to Canada so by agreement with the Hudson's Bay Company it was surrendered, with certain reservations, to the British Crown, and the company assumed the status of an ordinary commercial concern. Canada paid the company £300,000 for Rupertsländ and the

Northwest Territories—a sum hardly equalling the value of the present egg production in any of the three prairie provinces.

Canada has held Prince Rupert's land and the Northwest Territory but little over sixty years, yet in that short space of time, we have noted rapid strides in national development. The Réd River Settlement was organized in 1870 as the province of Manitoba. In 1905 the provinces of Saskatchewan and Alberta were created from the former Northwest Territories, and thus became the youngest members of the Canadian Confederation. Official figures giving the latest provincial distribution of the national wealth of Canada include the following for these three young prairie provinces:

Province	Estimated wealth	Estimated population	Wealth per capita
Saskatchewan	\$3,047,000,000	921,785	\$3,305
Manitoba	1,970,000,000	700,139	2,814
Alberta	2,406,000,000	731,605	3,289

These figures indicate the spectacular growth of the provinces since their creation, and the rich markets they offer for the development of overseas trade via Churchill.

SASKATCHEWAN'S PROGRESS

During the span of her existence as a province, Saskatchewan has recorded virtually unparalleled progress, particularly in agriculture, her basic industry, which has given her a position of pre-eminence among Canadian provinces.

In the twenty-eight years since her creation, Saskatchewan, from relatively insignificant beginnings, has advanced to third place among Canadian provinces in population, to second place in agricultural wealth, and to first place in the value of her agricultural lands, implements and machinery. She ranks first in production of wheat, rye, oats, and flax, under normal conditions; is first in horse-breeding, first in quantity of commercial clay resources, and first in natural production of sodium sulphate. Saskatchewan has more rural telephones per capita than any other country of the world with the possible exception of Sweden. More significant and impressive still for so recently organized a province, Saskatchewan ranks first of Canadian provinces with the lowest mortality from tuberculosis, while her general death rate is the lowest of any country in the world recording vital statistics.

In other directions, too, Saskatchewan takes prominent position among Canadian provinces. She ranks second in railway mileage, second in number of telegraph offices, and second in production of barley. Carrying the tally still further, Saskatchewan is third in volume of coal reserve, third in poultry population, and third in aggregate wealth. In per capita wealth, Saskatchewan ranks third in the Dominion, while her per capita debt and general taxation are lowest of the western provinces.

Heretofore, Saskatchewan's renown has resulted from the progress and development of agriculture. But the province has also made unparalleled progress in recent years in manufactures. The strategic position of the province as a distributing centre for merchandise and in relation to

the Hudson Bay route has been directly responsible for the advent of large branch factories with several allied industries. Activity also has been increased in the industries based upon the great resources of lignite coal, commercial clays, sodium sulphate, bentonite, and volcanic ash, and this industrial expansion has attracted the attention of the financial and business world.

Growth of population is a reliable yardstick by which to measure the economic development of any community, and the steady growth of Saskatchewan's population will be seen from the following table:

1905	195,000
1911	492,000
1922	757,510
1926	820,738
1929	866,700
1933	921,785

The population of 921,785 is made up as follows:

	Population	% of total population
8 Cities	149,015	16.2%
80 Towns	64,817	7.0%
377 Villages	76,968	8.4%
301 Rural Municipalities	580,007	62.9%
Unorganized Territories	39,039	4.2%
Indians	11,939	1.3%

Saskatchewan's gross tangible wealth has been officially estimated at \$3,047,000,000 and her potential wealth at \$15,000,000,000.

General Physical Description of the Hudson Bay Region

HUDSON STRAIT

L YING between west longitudes $64^{\circ} 35'$ and $80^{\circ} 45'$ and north latitudes $58^{\circ} 20'$ and $64^{\circ} 35'$ is an arm of the sea connecting the Atlantic ocean with Hudson bay and Foxe channel and separating Baffin island from the Ungava peninsula. The entrance to Foxe channel lies between Seahorse point, the eastern extremity of Southampton island, and Lloyd point, the nearest part (or the southwestern extremity) of Baffin island.

From its eastern entrance, between cape Chidley and Resolution island, Hudson strait trends about 430 nautical miles in a general west-northwest-erly direction to Nottingham island. Between Button islands, lying off cape Chidley, and the south point of Resolution island, the width of the strait is about 37 nautical miles. A large expansion of the strait on its southern side, immediately inside the eastern entrance, is known as Ungava bay, some 140 nautical miles in extent and having an area of about 14,800 square geographical miles.

Westward of Ungava bay the strait varies in width from about 50 to 100 nautical miles. The area of the strait, inclusive of Ungava bay and islands, is about 58,000 square geographical miles. It has a greatest charted depth of 330 fathoms. The high, bold shores are broken by many bays and magnificent fiords which afford excellent harborage. About 12 or 15 miles inland, the rugged, mountainous coast of Ungava falls away to low rolling country.

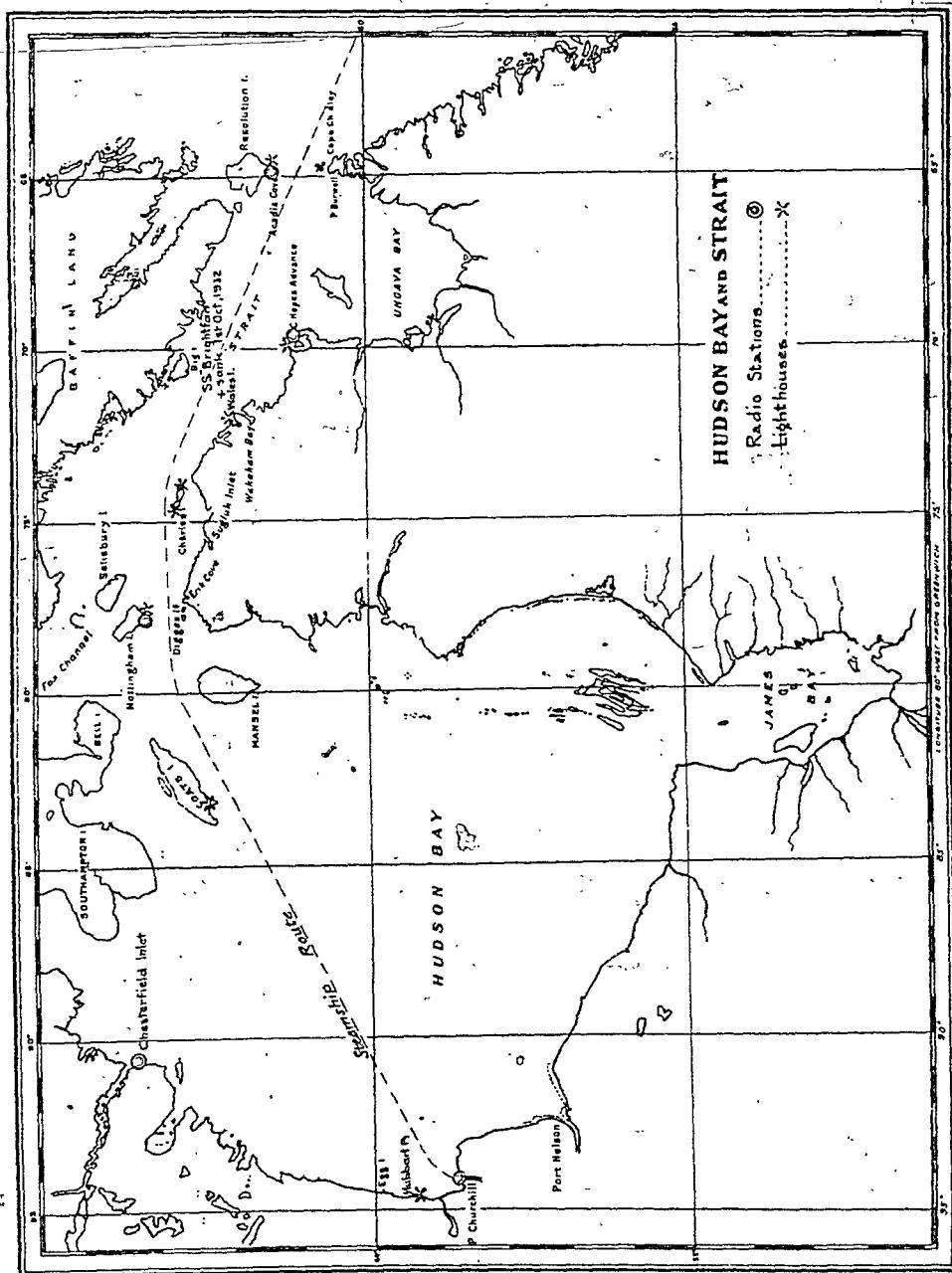
In Hudson strait are many islands. Commencing at the eastern end the principal ones are: Button islands on the south and Resolution on the north. Close off the Baffin island shore and about midway of its length lies Big island. In the northwestern part of Ungava bay, Akpatok island rises precipitously. On the south side of the strait near its western end lie Charles island and the Diggles cluster, and in the middle of the strait, near its western extremity, is a group of three islands, Salisbury, Nottingham and Mill.

HUDSON BAY

Hudson bay is an immense inland sea which penetrates deeply into the northeastern portion of the North American continent. It is almost completely land-locked but is joined to the Atlantic ocean on the east by Hudson strait and to the Arctic ocean on the north by Foxe channel and Fury and Hecla straits. With its southern extension, James bay, it is contained between north latitudes $51^{\circ} 8'$ and $66^{\circ} 35'$ and west longitudes $77^{\circ} 20'$ and $94^{\circ} 50'$.

For the purposes of this handbook the northern boundary of Hudson bay may be considered to extend from Nuvuk, the northwestern point of Ungava, to Leyson point, the southeastern extremity of Southampton island. From this point to the western mainland the boundary follows the south and west coasts of that island to cape Frigid at its northwest extremity, whence it crosses to the eastern entrance of Repulse bay.

CHART OF HUDSON BAY AND STRAIT



The main body of Hudson bay is quite open.

Southampton island, about 175 miles in extent, borders on the northern part of the bay. In the northeastern part lie Coats and Mansel islands. Lying off the east coast of Hudson and James bays is a labyrinth of islands known as Ottawa, Sleepers, Nastapoka and Belcher groups in Hudson bay, and Akimiski, Twins and Charlton islands in James bay. The west coast is almost devoid of islands except well to the north where Marble and a few other islands are found.

The bay has a greatest length of about 930 nautical miles between its extreme latitudes and a greatest width of 520 nautical miles in latitude 60° N. The area of Hudson bay inclusive of James bay, Mansel, Coats and the other smaller islands and inlets is 246,000 square geographical miles. James bay itself is over 200 miles in length and over the greater part of it has a width of from 80 to 100 miles with a total area about 21,000 square miles. Mansel island and Coats island have areas of 975 and 1,300 square miles approximately and Southampton island (not included in Hudson bay) has an area of some 9,250 square miles.

Except off its eastern shore, Hudson bay is remarkably free from rocks and shoals, and has an average depth of 70 fathoms; along the central part of James bay there are general depths of 20 to 30 fathoms, but much of James bay is very shallow with drying mud flats extending off its shores.

PLATEAU

Surrounding Hudson bay in the shape of a horseshoe is a great plateau variously known as the Canadian or Archaean shield, the pre-Cambrian shield or the Laurentian plateau. It occupies nearly the whole of Canada east of a line joining Great Bear lake and lake Winnipeg, except for the extreme southern parts of Ontario and Quebec, the Maritime provinces and an area adjacent to the southwesterly shores of Hudson bay often referred to as the Hudson bay lowlands. It also extends across the international boundary line to occupy an extensive area south and west of lake Superior and makes a small encroachment into New York state below lake Ontario. The total area of this division has been estimated to be nearly 2,000,000 square miles, of which over 1,750,000 square miles are in Canada and Labrador.

The drainage of that part of the great plateau which lies to the eastward of Hudson bay is divided, the rivers flowing on the one hand to Hudson bay and strait and on the other hand to the Atlantic ocean and St. Lawrence waterway. Similarly the drainage of that part of the plateau which lies northwestward of Hudson bay is divided between Hudson bay and the Arctic ocean. The whole of the plateau southwestward of Hudson bay and thence the area westward to the Rocky mountains forms part of the drainage basin. The latter includes the agricultural regions drained by the Saskatchewan and Red river systems which discharge into lake Winnipeg, which, in its turn, is drained by the Nelson river which flows into the bay. The total area of the Hudson bay drainage is about 1,500,000 square miles, almost all of which lies in Canada.

Notwithstanding the absence of forests, the Hudson Bay country, when seen at close range in summer months, has not the barren and forbidding

appearance usually associated with the sub-arctic regions. Beyond the tree line the arctic birch and willow grow in the more sheltered valleys and in some places a profusion of flowers are sprinkled to the edge of the salt water shores. The mosses and lichens, which cover the hills, until recently supported huge herds of caribou.

RIVERS

Many rivers both large and small find their way into Hudson bay and adjacent waters. Of these affluents the Nelson is the largest. From east to west the principal rivers are as follows: George and Koksoak flowing into Ungava bay; Nastapoka and Great Whale, flowing into the eastern side of Hudson bay; Big, Eastmain, Broadback, Nottaway, Moose and Abitibi, Albany, and Attawapiskat, flowing into James bay; Winisk, and Severn, discharging at the southwestern part of Hudson bay; Hayes, Nelson, and Churchill, flowing into the western side of Hudson bay; Kazan, and Dubawnt, flowing into Baker lake and thence to Hudson bay by way of Chesterfield inlet.

INHABITANTS

The natives of the northern Hudson Bay region are the Eskimo and the North American Indian.

Until recent years the white population was restricted to a few missionaries, police, traders, trappers and transient prospectors. Mining activities are now attracting thousands, prospectors are spreading over the country in greater numbers than ever before, and on the southern border of the region several towns are springing up.

CLIMATE

With a range in latitude of over 15 degrees, or about 1,070 miles, the Hudson Bay region has naturally a wide variation of temperature. Compared with Saskatchewan, the Hudson Bay region has a later spring and lower winter temperatures, but the summer months have about the same temperature. The annual precipitation is a little heavier than that of Prince Albert, and nearly half is due to winter snows.

Trade Via Churchill

A glance at the map of Canada reveals the inland isolation of the prairies. Between them and the Pacific ocean lies the Rocky mountain barrier. To reach the Atlantic seaboard hundreds of miles of unsettled country have to be traversed, and after that the great St. Lawrence system of waterways is at best but an inadequate substitute for an ocean lane route. The Hudson Bay route, however, shortens the distance between principal Saskatchewan points and Great Britain by about 1,000 miles. Therefore to the shores of the bay our people have naturally cast hopeful eyes, and for many years agitated for a Hudson Bay terminus to provide closer and more profitable connection with overseas markets. The project in course of time has assumed national rather than sectional proportions, and all political parties have become committed to it.

By the construction of harbor works and shipping facilities at Churchill, and the building of the Hudson Bay Railway, the handicap of our western commerce has been removed, and we are given an international trade route of the highest importance, not to the prairies and Canada only, but to the whole Empire, for the junction of the Hudson Bay Railway with the Canadian National and the Canadian Pacific railway systems is a completing link in the shortest All-Red Highway round the world.

Distances, freight rates, and markets are three of the principal factors in trade development and brief reference to them should be made in connection with the Hudson Bay route.

DISTANCES

The shorter route via Churchill has very considerable commercial advantages. As a fair and concrete illustration, the distance from Saskatoon to Fort William is 904 miles, and from Fort William, via the Great Lakes, to Liverpool, 3,974 miles—a total of 4,878 miles. By the Hudson Bay route the distance from Saskatoon to Churchill is 814 miles, and from Churchill to Liverpool 2,936 miles—a total of 3,750 miles, or a saving by the Hudson Bay route of 1,128 miles, with 90 miles less rail haul. Other Saskatchewan and prairie cities benefit in varying degree, as will be seen from the distance tables on page 48.

FREIGHT RATES

In addition to the shorter distances and saving in time, very substantial reduced freight rates are obtainable on farm products and general merchandise moving via Churchill as compared with the Montreal route. This combination of favorable transportation factors offers compelling inducements to exporters and importers to patronize the "Bay" route. The schedules of comparative freight rates are shown on pages 49 to 51.

Again taking Saskatoon as a fair and concrete illustration, it will be noted from these schedules that the saving affected via Churchill on livestock is \$123 per car; on dairy products, butter and dressed poultry, the saving is \$365 per car; and on eggs the saving is \$160.87 per car, while on export grain and general merchandise considerable reduced freight rates also apply.

OVERSEAS MARKETS

The trade agreements made between Canada and other Empire countries at the Ottawa Imperial Economic Conference last summer have already resulted in increased Intra-Empire trade. They are also expected to give impetus to increased British imports, and swell the export of our agricultural products, via the Hudson Bay route.

As regards the export situation, in the United Kingdom there now exists a general tariff, with preference to Empire goods, thus adding to the sentimental preference a valuable fiscal preference. A duty of 3 pence or 6 cents per bushel is levied on foreign wheat imported while Empire wheat continues free. Canadian flour also is free with a 10% ad valorum duty against foreign flour. Free entry is allowed Canadian bacon and hams with the stipulation that in any legislation for regulating imports, Canada is to be allotted a maximum of 280 million pounds per annum. Butter, cheese, eggs, and other dairy products enjoy free entry for three years certain and a guaranteed margin of preference during the following two years, against substantial duties imposed on similar foreign products. The severe restrictions on imports of live-cattle from Canada have been removed which should increase our live-cattle trade especially while the United States market for our cattle remains closed.

With a favorable price incentive our farmers, abattoirs, packers, and indirectly the whole province and entire country, should benefit from the aforementioned concessions especially when it is remembered that the United Kingdom is pre-eminently our best overseas market. The federal agricultural stabilization fund has already ensured better prices for farm products, and increased exports.

With respect to import traffic, factual information has already been given about Saskatchewan's rapidly expanding wealth and population; the people are empire-minded, and look with favor on British products; the urban centres are fully provided with wholesale houses and retail firms; a splendid network of transportation systems and distributive facilities exists within the province; the Ottawa agreements offer inducements for British manufacturers to push their sales in the prairie provinces. These and other factors all unite to make the Saskatchewan market more attractive to British manufacturers, and should result in a greater volume of their traffic moving via Churchill.

It is unfortunate that the inauguration of the Hudson Bay route in 1931 should have coincided with the great and unprecedented world-wide storm of depression, restricted international trade and exchange difficulties, which have curtailed traffic not only through Churchill but other ports all over the world. The future outlook, however, is distinctly heartening, and bids fair to restore confidence among business men and producers generally. It seems safe to forecast an improvement in general trade conditions which should help to develop more extensive and profitable business through Churchill.

British manufacturers and traders can secure any further information desired regarding the Hudson Bay route from the following:

Captain W. Waldron,
"Eastfield,"
Braunton, North Devon.

R. S. Dalglish, Ltd.,
Watergate Buildings,
Newcastle-on-Tyne.

The High Commissioner for Canada,
Canada House, Trafalgar Square,
London.

or from any of Canada's Trade Commissioners located in the various British cities.

TOURIST TRAFFIC

Not only will Churchill become a great seaport for the middle west, but also an attractive tourist centre. The surrounding country, full of historic associations and absorbing interest, with beauty in nature and thrill in travel, provides a setting for unusually attractive holiday expeditions. The development of Churchill will encourage the provision of hotel and other necessary accommodation to take care of not only business but tourist requirements. The Manitoba government has already called for tenders for the construction of a suitable hotel.

Churchill Terminal

IN 1927 the Federal Government appointed Mr. (now Sir) Frederick Palmer, M.Inst.C.E., M.Am.Soc.C.E., of London, England, an acknowledged authority on harbor problems, to make a thorough examination into the much disputed relative merits of Churchill and Nelson as the terminal for the Hudson Bay Railway. After full and careful investigation he recommended the abandonment of Port Nelson and the establishment of the terminal at Churchill, which recommendation was approved by the government. The following facts are recorded in his report with respect to Churchill.

Natural protection. At Churchill, nature has provided breakwaters consisting of rocky cliffs rising to heights of from 40 to 70 feet, enclosing a harbor six miles in length and from 1 to $2\frac{1}{2}$ miles in width at low water and 1 $\frac{1}{2}$ to 4 miles at high water.

Entrance to harbor. The entrance to the harbor consists of a narrow gap between these headlands with a low-water width of 1,600 feet, a width of 850 feet at 30 feet depth and 750 feet of width having depths exceeding 60 feet. Inside the entrance, there exists today an area of 140 acres with depths of 30 feet and over at low water, and a further area of about 180 acres with depths varying from 18 to 30 feet at low water, beyond which there is a vast area of lesser depth.

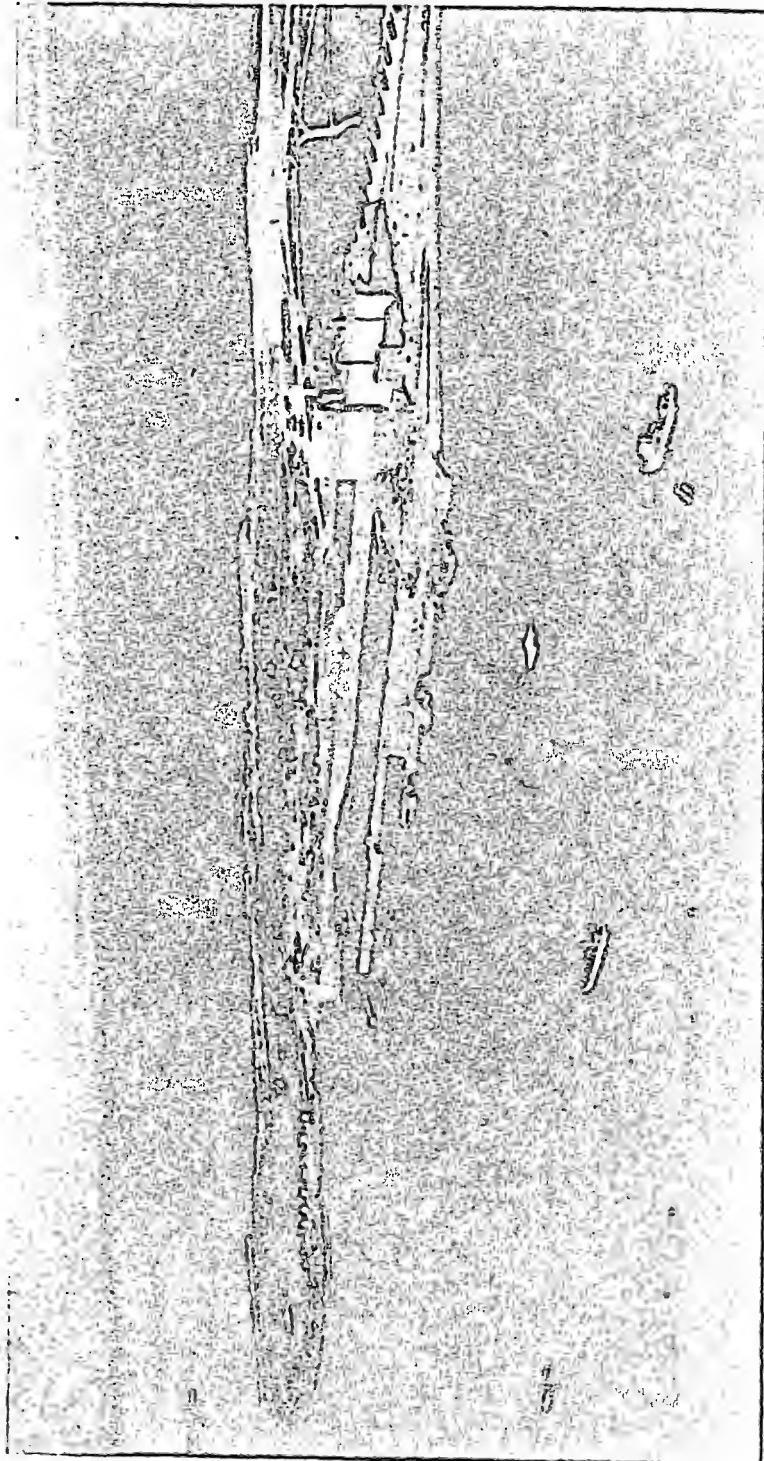
Storms innocuous. Owing to the configuration of the cliffs guarding the entrance, the only gales which affect the inside area are those from directions between north-northeast and east-northeast, and because of the inclination of the inner area to the southeast, the only part affected by such gales is a short strip of shore on the west side of the entrance. The rest of the bay is quite unaffected by gales from any direction.

Ample depths of water. At Churchill, vessels of 30 feet draught can enter the harbor along the easier course at all states of the tide while, for 12 hours of each day, even at neap tides, 36-feet vessels would have ample depth of water. On the alternative course, vessels of 35 feet can enter at all states of the tide, and for 12 hours of each day there would be sufficient water for vessels of 40 feet draught. At spring tides the conditions, of course, would be even better.

Draught practically unlimited. Inside the harbor the works covered by the estimates allow of the passage to the wharf of 28-feet draught vessels at all states of the tide, and the harbor bed can be readily dredged at reasonable cost to any depth required.

No real limits to extension. The site of the wharf has been so laid out as to admit of easy and, for all practical purposes, unlimited extension along the east shore of the harbor. Certainly 20 vessels could be berthed in one straight line, with moorings for 20 more, and this does not by any means exhaust the possibilities of extension.

AERIAL VIEW OF CHURCHILL SHOWING GRAIN ELEVATOR, DOCKS AND HARBOR



The Port of Churchill

CHURCHILL lies immediately within the entrance of Churchill river. As has been noted, the port is the terminus of the Hudson Bay Railway about 500 miles northeast of The Pas. Although at present in its infancy the townsite contains the following facilities which will be increased as time goes on until, it is expected, a thriving and industrious port will emerge.

Railway. The Hudson Bay Railway connects Churchill with all parts of Canada and the United States.

Banks. Branches are established of the Bank of Montreal, the Canadian Bank of Commerce, and the Royal Bank of Canada.

Postal and telegraphic facilities are available.

Customs office. A customs office is maintained during the season of navigation.

Machine shop. A good machine shop is available for repairs.

General store. There is a general store operated by the port authorities.

Supplies. Limited supplies of provisions may be obtained at Churchill or may be brought in by rail in any quantity.

Hudson's Bay Company. Churchill is the chief distributing centre of this company for its posts in the Hudson Bay area.

Churches. There is a Roman Catholic church, and missions of the Anglican church and United Church of Canada.

Hospital. A hospital is maintained by the port authorities.

Police. Police supervision is provided by representatives of the Royal Canadian Mounted Police.

The Government of Manitoba has jurisdiction over the development of the townsite of Churchill which has been drained and surveyed into commercial and residential lots.

The townsite is now open for settlement and building sites are available. No lots will be sold, but long term leases will be issued.

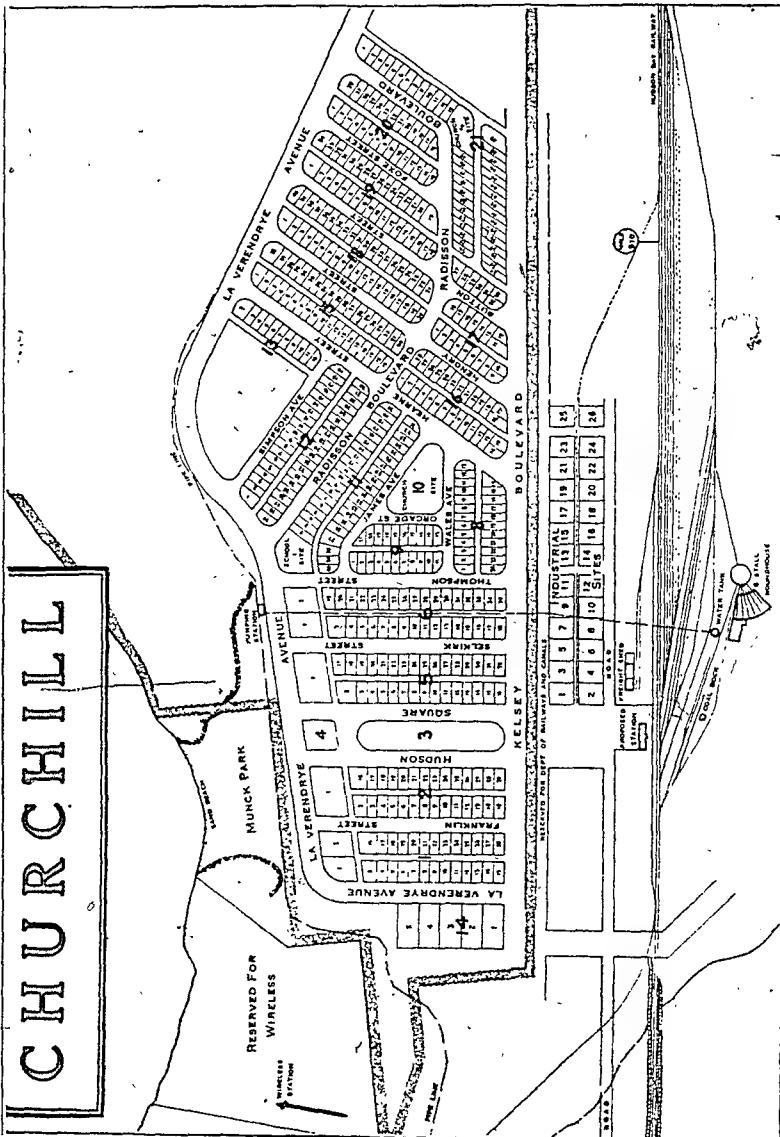
All buildings must be fire-resistant and insulated against cold.

Plans and specifications must be approved by the Director of Surveys for Manitoba, and a permit secured before construction is commenced.

Leases will be for fifty years, subject to the right of renewal for further periods. The annual rental for the first five years has been fixed at \$100.00 for business lots and \$25.00 for residential lots, but will be subject to revision periodically during the balance of the term. Revised rentals will be based on the value of the land without improvements and shall not exceed five percent, but ordinarily will not be less than the rent provided for the initial period.

The Lessee will be required to comply with the Town Planning Scheme, government building restrictions and specifications, rules and regulations respecting sanitation, health and fire protection.

CHURCHILL



THE TOWNSITE OF CHURCHILL

Building operations must be commenced within one year and completed within two years.

The Lessee will assume all taxes of every kind, and no assignment of any existing lease may be granted without the consent of the government.

Further information and details will be furnished upon request to the Department of Mines and Natural Resources, Winnipeg, Manitoba.

Churchill Port Facilities

SHIPMASTERS, exporters, and consignees speak well of the facilities available at Churchill for the handling of ships and the loading and discharge of cargo. Many testimonials have been received from them, and patrons of the "Bay" route and others have promised their continued support in the future.

The port properties and facilities are administered by the Federal authorities and are as follows:

Wharf. On the east shore of the harbor about one mile from the entrance, is a spacious wharf with a frontage of 1,855 feet and berthing accommodation for four vessels.

When complete, the pier will have facilities for coal storage, cattle, lumber, a coal handling plant, and two terminal sheds.

Cargo equipment. Facilities and equipment for handling cargoes, etc., include locomotives for switching cars, railway tracks on the wharf to all ships' berths, a floating derrick of 20 tons capacity, scows for removing ship's ballast, electric light installation, and two locomotive cranes of 15 and 20 tons capacity.

Freight shed. A modern freight shed, 303 feet in length and 175 feet in width.

Service tracks on the wharf and in the shed, and train make-up railway yards conveniently located.

Open storage. An area on the wharf capable of storing about 40,000 tons of coal.

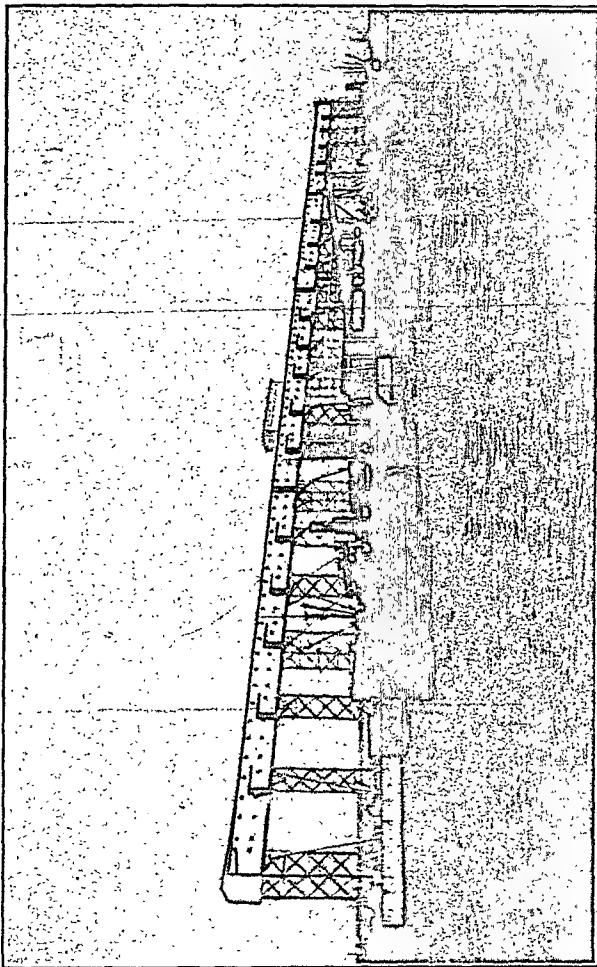
Cattle can be loaded from railway cars alongside the ships.

Fresh water. A reservoir of 17 million gallons capacity has been provided about three miles from Churchill, for the water supply of the townsite, its shipping, and other facilities.

This reservoir has been excavated to a depth of about twenty feet which will prevent the water freezing to the bottom in winter. The reservoir now intercepts the drainage of about two and a half square miles, and this area can be increased to ten square miles, without great expense. A pumping station and tank have been provided at the reservoir. From this station a 10-inch wrought iron pipe is carried to another tank located within the townsite of Churchill, whence an 8-inch pipe leads to the railway water tank, and to the elevator and dock. This reservoir and pipe line may become a part of a scheme to obtain water from the Churchill river if such should ever be required. The capacity of the pipe line is about 250,000 gallons per day.

Electric current for lighting purposes can be supplied to shipping, under special arrangement.

Fire prevention service. The three government tugs at Churchill are equipped with pumps, and there is an unwatering pump in the pumping station which may be connected with the pipes along the dock in case of need.



STEAMSHIPS "PIETRO CAMPANELLO," "JUVENTUS" AND "RIO CLARO"
LOADING AT CHURCHILL, 1932

Pilotage. Harbor tugs, and proficient pilots are available.

Tugs. Three efficient tugs are maintained by the Federal government, one of which is fitted with a salvage plant.

Diver. A diver and complete diving apparatus is stationed at Churchill.

Anchorage. At the mooring ground about a mile distant, there is safe anchorage for three ocean vessels, with 30 feet of water at low tide. Bow and stern moorings will be provided for eight vessels in over 20 feet of water at low tide. Outside the harbor there is safe anchorage for an unlimited number of vessels in from 8 to 12 fathoms over sand and mud bottom.

GRAIN ELEVATOR

The last word in construction and equipment characterizes the new grain elevator at Churchill which has been built by the Canadian Government, and which has a capacity of 2,500,000 bushels. Plans have been devised in such a manner that additional capacity may be provided to the extent of 10,000,000 bushels. In the present unit, the workhouse alone has a capacity of 500,000 bushels.

Equipment of the workhouse includes four receiving legs having a capacity of 25,000 bushels per hour each; four shipping legs having a capacity of 20,000 bushels per hour each; 11 cleaner legs and one drier leg. There are also hopper scales, each having a capacity of 2,500 bushels, 19 cleaner garners, passenger elevator and Humphrey elevator. A complete dust cleaner system is installed throughout all parts of the workhouse. Wall areas between columns are filled in with steel sash and glazing to provide a maximum of light and protection against possible dust explosions.

The storage annex is 290 feet by 100 feet wide, built end-on to the workhouse. There are 44 circular bins 23' in diameter and 24 outer space bins and 76 inner space bins. In the cupola there are four conveyor belts 42 inches in width, while in the basement there are an equal number, 36 inches in width.

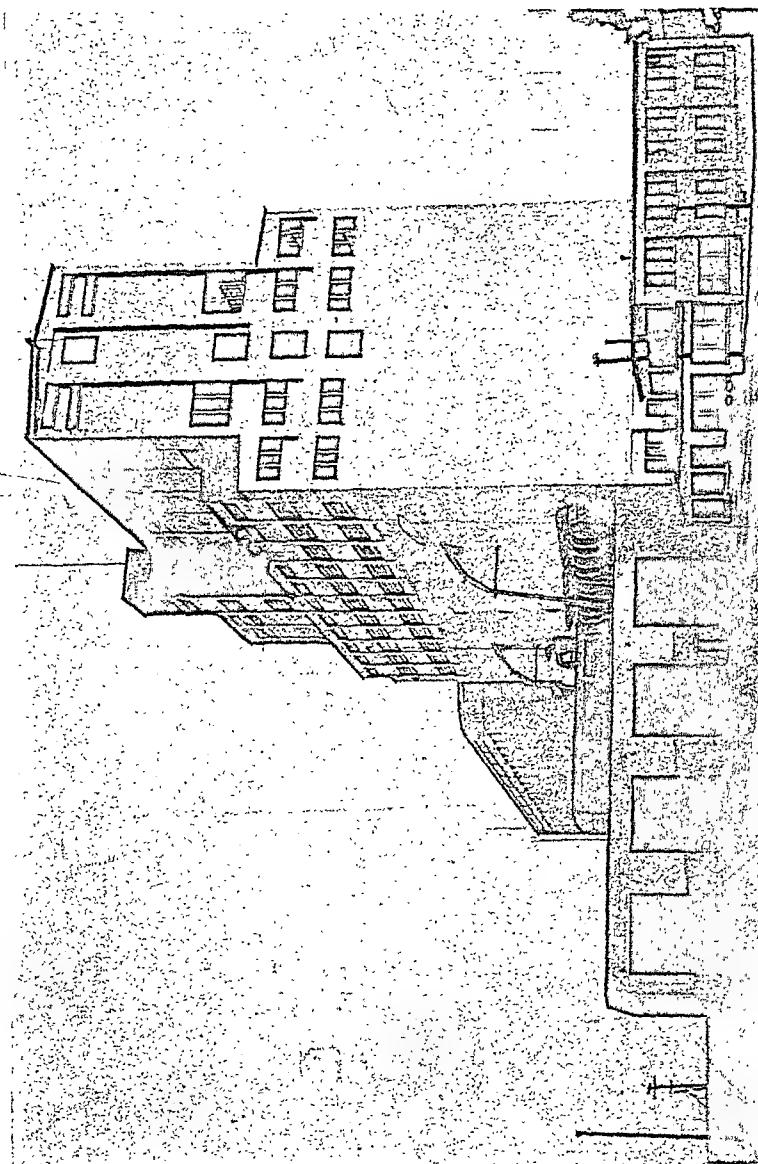
A grain drier having a capacity of 1,000 bushels per hour is housed in a separate building.

The office building is at one end of the workhouse, and will contain elevator offices, millwright shop, dining and rest rooms for the staff, and quarters for the Inspection Department.

Electric power is generated by a modern power plant 120 feet long and 100 feet wide. Equipment includes two 600 B.H.P. boilers and one 300 B.H.P. boiler, two 1,500 K.W. steam turbo-generators and one 600 K.W. turbo-generator.

Grain is delivered from the elevator to the deep water dock by a four belt conveyor system. The gallery along the dock is about 1,500 feet in length to provide berthing for three grain boats under the galleries' spouts. Twenty-three boat spouts are spaced at about 65 feet centres. Four streams of grain can be discharged to the boats at the rate of 20,000 bushels per hour for each stream. Shipping galleries are constructed of structural steel frame covered with corrugated iron.

The unloading track shed is served by four tracks and four "Dominion Howe" automatic box car unloaders.



NEW GRAIN ELEVATOR AT CHURCHILL
PRESENT, CAPACITY 2,500,000 BUSHELS; PROPOSED CAPACITY 10,000,000 BUSHELS

Churchill Port Charges, Etc.

FOR some time past the Saskatchewan government has been negotiating with the Ottawa authorities regarding facilities at Churchill for the quick despatch of cargo and steamers, and the charges to be levied at the port. The Federal government has now fixed these charges on the basis that the tariff at Churchill shall not exceed the minimum rates in effect at other Canadian ports.

The Federal government have made very heavy expenditures at Churchill (as noted on page 38) and will continue to incur much expense in maintaining and operating the port. They find it necessary, therefore, to secure some revenue to assist in meeting expenditures. In this connection it may be said that the general principle applied to ports is that as port costs are borne by the taxpayers their burdens should be lightened by contributions from those who benefit from the use of the ports.

The following is a summary of the Federal government and general port charges at Churchill:

Harbormaster and harbor dues. There are no charges under these headings.

Dockage. Vessels, hulks, scows or tugs, making use of the dock, but not loading or discharging freight, will be charged for each 24 hours or portion thereof, \$100.

A three-day free period is allowed vessels loading and discharging freight; after which free period the above-mentioned charge of \$100 per day will be made.

Wharfage. Wharfage charges are made on cargo passing over the docks or wharves, or transferred between the vessels, or loaded from the water over the ship's side while the vessel occupies a berth at the wharf. These charges are exclusive of any such for sorting, piling, weighing, handling or trucking.

The tariff is the minimum at other ports according to commodity. Where goods are not specified—imports \$0.25 per ton, exports \$0.20 per ton.

Storage. Storage charges are made on freight remaining on the wharf premises after the expiration of the free-time period. All freight using the dock or wharves will be allowed four days' free storage immediately preceding a vessel's loading, or immediately following a vessel's discharge. The free-time period is exclusive of Sundays and legal holidays. After the expiration of the four-day free-time period storage charges will be assessed as follows, per 2,000 pounds or 40 cubic feet:

First seven days..... 3 cents.

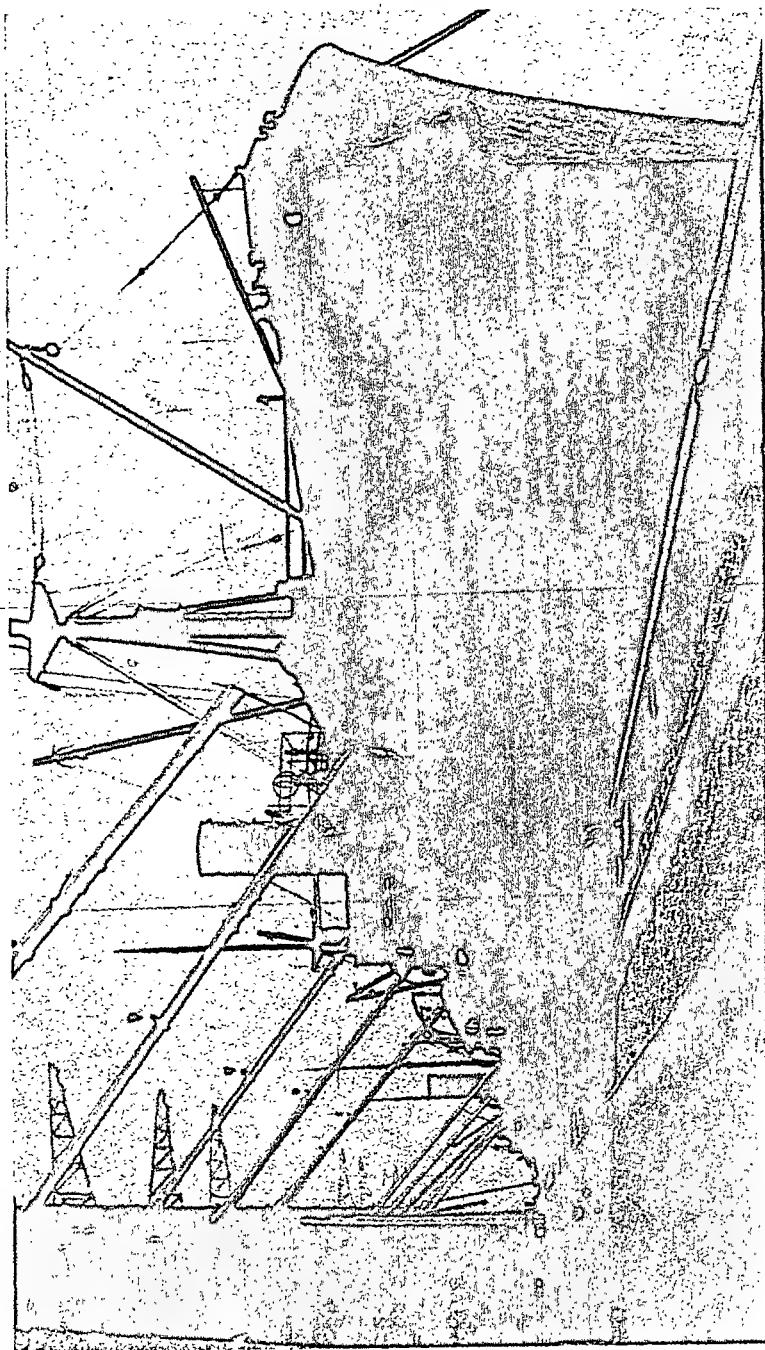
7 to 14 days..... 4 cents.

Over 14 days..... 5 cents per week or part thereof.

Gasoline, naphtha, distillate and high explosives, may not be stored.

When space is available freight may be stored outside of the sheds at a specified rate per ton, per month, or portion thereof, providing the consignee has signed a release of responsibility for loss or damage; otherwise the regular storage rates will apply.

THREE STEAMERS LOADING SIMULTANEOUSLY AT CHURCHILL



Pilotage. Pilotage dues, inward and outward, at the rate of \$50 per vessel, are compulsory.

Port Warden. Under the terms of the Canada Shipping Act, a tariff of port warden's fees has been approved. These charges are for surveys of cargoes, hatches, hull, spars, or rigging of any vessel, or of damaged goods and also for every valuation of a vessel and every inspection of a vessel intending to load and including certificates.

On a ship carrying 5,000 tons of grain the charge will amount to \$50. The fee for survey of hatches is \$8.

Handling lines. On ships handling general cargo, no charge will be made between 8 a.m. and 5 p.m., exclusive of holidays. Between the hours of 5 p.m. and 8 a.m., a charge of \$1.20 per man, per hour, will be made for tying up and letting go a vessel's lines; vessels to pay the minimum charge, being that for two hours. At the elevator and dock a charge will be made for handling ship's lines when vessels are loading bulk grain only, according to a special tariff, details of which may be had on application to the port authorities.

In this connection a vessel has the privilege, if so desired, to take and let go its own lines at the elevator terminals.

Tug service. The services of tugs will be charged for at the rate of \$50 per hour.

Fresh water. A charge of 45 cents per 1,000 gallons is made for fresh water furnished to vessels alongside the wharf; an additional charge of \$2 will be made for wharf hose, if used.

Electric Current. Electric current for lighting purposes will be furnished to vessels under special arrangement.

Stevedoring. This will be done under private contracts.

Elevator delivery. A favorable tariff has been arranged and will be published shortly.

SHIPPING SERVICES

The Department of Marine, Ottawa, administers the general shipping interests of Canada, including Churchill and the Hudson Bay route. Administration of the Canada Shipping Act and other acts relating to marine transportation, the construction of lighthouses, ports, harbors, piers, pilotage, the meteorological service, river and harbor police, shipwreck inquiries, inspection of ships, radio telegraph stations, etc., are among the most important functions of the department.

Marine Insurance

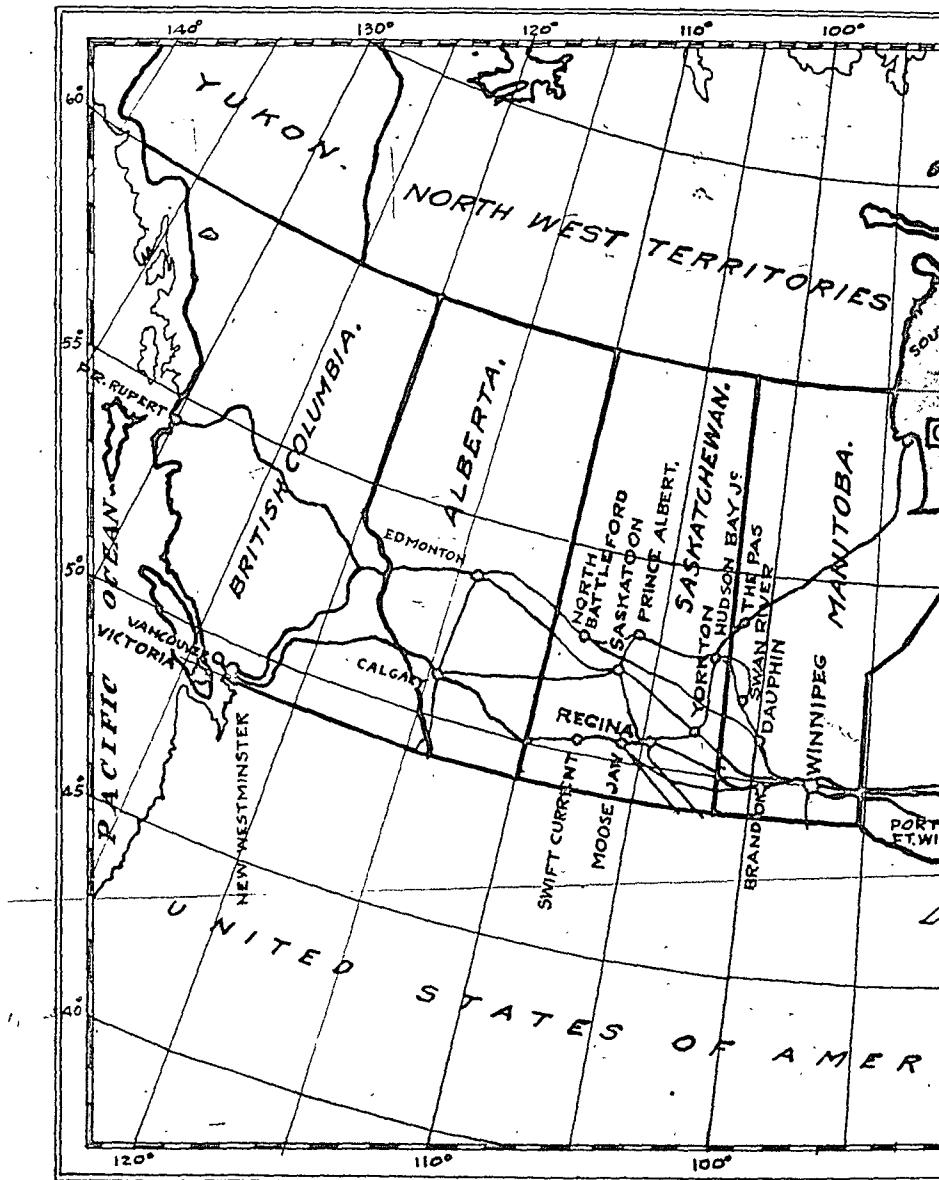
CLOSELY allied with the development of the Hudson Bay route, and the attraction of shipping and trade to it, is the important question of marine insurance. The insurance rates on hulls and cargoes using Churchill, and the short season covered, constitute an unnecessary and unjustified handicap against the Hudson Bay route and impose a heavy burden on overseas trade. Relief continues to be sought from the unjust discrimination, and recently the Saskatchewan government obtained certain valuable concessions to which reference will be made later.

Trade to and from Churchill is at present catered for by cargo steamers which generally are insured on whole world policies by the year. These policies are subject to what are known as Institute Warranties. Under these warranties, the terms of which are settled by the Joint Hull Committee, a shipowner covenants that his ship shall not voyage in certain defined trade routes which the underwriters regard as involving extra risk. The route to Churchill is considered to be in the latter category. In the form of policy, however, there is a clause providing for the suspension of any of these Warranties on the payment of an additional premium. If, during the year covered by the insurance, a shipowner desires to send his ship into prohibited waters, he pays the additional premium, the amount of which is fixed on the recommendation of the Joint Hull Committee. The basal premium for the year's insurance is arrived at by competition.

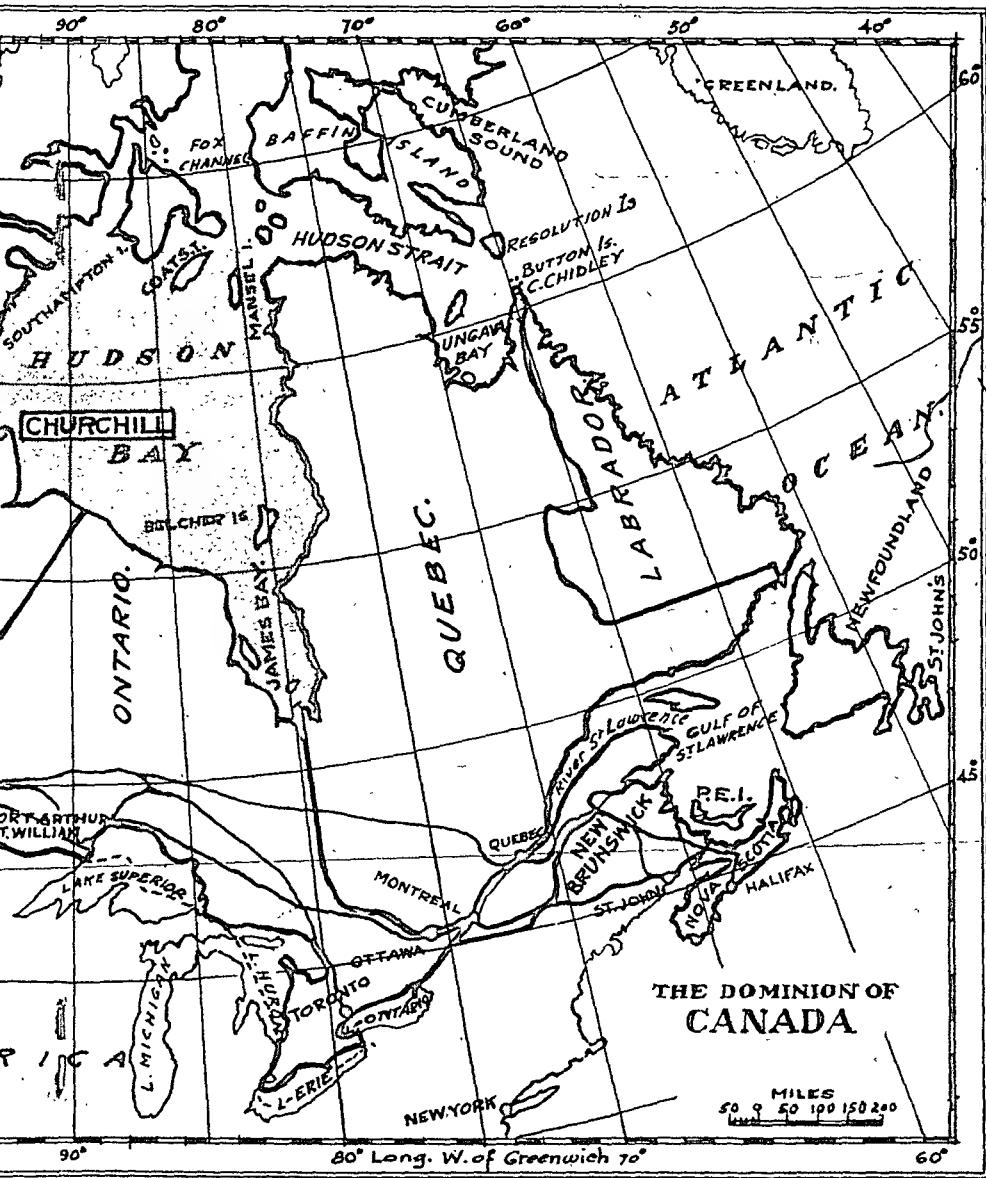
In the policies also there is a provision which is known as the British North American Warranty Clause, whereby the ship is insured under the condition that she will not ply to British North American ports, or if she does, will be charged an additional premium, which varies with the season. This clause has been vigorously contested for many years but still obtains as regards hulls and cargoes using Canadian ports except Vancouver and Prince Rupert, and except hulls in the case of Halifax and cargoes through Saint John. From St. Lawrence and Maritime ports, however, much lower rates are quoted than from Churchill.

The additional premium of 3½% (based on a vessel valued at £10 a ton) for suspension of the North America Warranty in respect of vessels using the Hudson Bay route only covers their entry to Hudson straits on or after August 10th, and leaving Churchill on or before October 7th. A still further heavy premium must be paid if vessels enter before, or leave after, these dates. These charges apply to the steamers and are paid by the shipowners—cargo insurance is entirely separate and additional, and is paid by either the shipper or consignee.

The Saskatchewan government has made repeated representations to the Federal government, who in turn assisted and brought the matter up at the Imperial Economic Conferences of recent years. Later the whole question was referred to the Imperial Shipping Committee. As a result some relief was secured from underwriters, particularly in the case of vessels equipped with a gyro compass as well as wireless direction finding apparatus. But being unable to obtain the measure of fair and just rates desired, the legislature of Saskatchewan on March 5, 1931, passed an



HUDSON BAY—
CHURCHILL—A SEAPORT IN



—CANADA'S INLAND SEA
IN THE CENTRE OF THE DOMINION

unanimous resolution that in the event of Lloyds or other marine underwriters failing to quote fair and equitable marine insurance rates on the Hudson Bay route, the Dominion Government should be requested to arrange for, and place in effect, a policy of State Marine Insurance. The latter idea also finds favor in other influential quarters throughout Canada.

From the underwriter's point of view, there is still a speculative element on Hudson Bay sailings which they are asked to entertain. As long as there are only a few voyages in the season, they figure that a single casualty may absorb the whole and more than the whole of the money received by way of premium. With an appreciable number of voyages successfully made they agree that the position would be different.

CONCESSIONS

The shipping experience of the future, with the improved salvage and navigational facilities, will unquestionably enable the underwriters to take a more confident view and reconsider concessions along the lines desired. Meanwhile, it is gratifying to be able to record that recently the Saskatchewan Government concluded an agreement with leading underwriters associated with Lloyds embodying new and specially reduced marine insurance rates with respect to grain and other exports from Churchill, and an extended period, namely, from seven to fifteen weeks, for insurance on inward and outward cargoes.

The new grain rates for 1933 sailings are as follows:

Between July 10th and August 10th..... $1\frac{1}{4}\%$, value of cargo

Between August 10th and October 10th..... $1\frac{1}{2}\%$, " " "

Between October 10th and October 20th..... $1\frac{3}{4}\%$, " " "

After October 20th—cargo will be insured at rates to be arranged.

Negotiations are still being carried on by the Saskatchewan Government for reduced insurance rates on import cargo, also on hulls and machinery.

The extension of the period for hull and machinery insurance (as has been secured in the case of cargo) so as to lengthen the season of navigation, is also being strongly and constantly urged. And again it is gratifying to report progress. The $3\frac{1}{2}\%$ -rate, already-mentioned, for suspending the British North America Warranty will hold good during 1933, despite the loss of the S. S. "Bright Fan" last October, and the period of navigation has been extended without increased insurance to October 7th. Last year the limit for sailing from Churchill was September 30th after which date a 10% increase on the above rate was fixed up to October 7th. This increase has been cancelled, which is a valuable concession. For sailings from October 8th to October 15th the 25% increase on the above rate will continue until the underwriters are induced to reduce it.

Hudson Bay Railway

THE Hudson Bay Railway runs between The Pas and Churchill in Manitoba, a distance of 510 miles, and is operated by the Canadian National Railways.

It is altogether probable that the Hudson Bay Railway will develop its own traffic, and, apart from the transport of grain, the road will doubtless justify itself later by the traffic originating from the natural resources of the territory served by the railway, which in itself will prove a profitable factor in developing the hinterlands of Canada.

Already the presence of minerals in stupendous quantities tributary to the main line of the railroad has been proved, and resultant development undertakings have made necessary the building of branch lines to Flin Flon and Sherritt-Gordon mines.

While the demand for a Hudson Bay outlet was most insistent in comparatively recent years, the idea dates back a long time. Old maps in the Department of Railways and Canals at Ottawa show the existence of paper projections to Hudson bay when the present Canadian Pacific was also a line on paper only. From 1886 to 1908 the Canadian statutes contained a standing offer of subsidy in the form of land grants to anyone who would undertake the construction of the line. In the latter year, Federal legislation was provided to authorize the sale of public lands in the west to enable the country either to construct, or to pledge the credit of the country to construct, a publicly-owned railway to Hudson bay. This legislation was in force until 1918, and produced approximately twenty-two million dollars. This revenue was never set apart specifically for the purposes of the railway, but the Federal treasury has had the benefit of it. Western Canada thus feels that it has already provided a fair proportion of the outlay involved in the undertaking.

Plans for a Hudson Bay railroad assumed definite shape in 1910 when a branch line of the Canadian Northern Railway, now part of the Canadian National Railways, was completed from Hudson Bay Junction to The Pas, and the building of a Féderal government line from The Pas to Hudson bay was authorized by parliament. Work on the Hudson Bay railroad was commenced the following year with Churchill as the objective. The proposed route lay entirely to the north of Nelson river and measured 474 miles. A townsite had been surveyed at Churchill in 1908 and it was confidently expected that this fine natural port would be developed in the course of a few years.

Before much progress had been made on the building of the railway, or any at Churchill other than surveys, the Federal government of the day decided to make Port Nelson the terminus of the road instead of Churchill. The location of the railroad was altered accordingly. The new survey crossed the Nelson river twice, at Manitou rapids and at Kettle rapids. The route was shortened by 50 miles, the total distance from The Pas to Port Nelson being 424 miles, but the developing of harbour facilities at the newly selected port involved greater efforts than at Churchill.

The right-of-way was cleared and graded to Port Nelson and steel was laid, before the end of 1918, as far as Kettle rapids, 332 miles from

The Pas. A very substantial steel bridge of a single 1,000-foot span was erected at this crossing of the Nelson river. Expenditures on the building of the railway amounted to \$14,000,000 and over \$6,000,000 was spent on port development at Nelson. Owing to the war and consequent lack of men and steel, operations were suspended before the project was completed, and for some years only part of the completed railway was kept in repair. A very limited service was maintained between The Pas and Pikwitonei at Mile 214.

In 1926, the work of completing the Hudson Bay Railway was actively resumed by the Federal government. Before additional construction could be undertaken, however, it was necessary to rehabilitate the entire mileage as formerly constructed, because the eight-year interval between closing down and resuming work had resulted in deterioration and destruction of much of the work that had gone into the line.

The resumption of work on the railway made it necessary either to confirm the choice of Nelson as the terminus of the road or reconsider the situation. In that connection, a special committee of the Senate had recommended that before making further important expenditures at Nelson a new and thorough examination into the relative merits of Churchill and Nelson should be made. No authority on harbor development had previously been consulted in relation to Hudson Bay ports, so Mr. Frederick Palmer, of Rendel, Palmer, and Tritton, London, England, was engaged by the government to investigate the respective merits of the two ports. Concurrently, steps were taken to ascertain whether it was physically possible to construct a line to Churchill, doubt having been thrown on that possibility by engineers who had favored the selection of Nelson. After close investigation by competent engineers, it was found that it would be no more difficult to construct a line of railway to Churchill than to Nelson. In August, 1927, Mr. Palmer, together with the Minister of Railways and Canals and the chief officials of the department, visited both places, and on their return Mr. Palmer reported that Churchill was undoubtedly the port to be selected as affording a real harbor in which shipping facilities could be provided in calm water, protected from all storms by the surrounding rocky cliffs.

In consequence of this recommendation by such an acknowledged authority on harbor problems, it was decided to extend the railway to Churchill and establish the Hudson Bay Railway terminus at that point, thus reverting to the decision originally made.

The following are the estimated expenses and revenues for the Hudson Bay Railway this year, based on the operations of last year, as stated in the House of Commons, February 10, 1933, by the Minister of Railways and Canals:

Estimated expenses	\$338,650
Estimated revenue	335,000
Estimated operation deficit	\$ 3,650

The items of expenses are:

Train operations	\$112,900
Train operations for wheat haul	101,600
Mechanical staff	37,000
Agents and operators	13,700
Heating shops, and so on	16,100
Pumpmen	10,700
Auxiliary rental	12,700
Water stations, fuel, and so on	7,000
Miscellaneous	4,500
Staffs, supervision and engineering	22,450
Total estimated operating expenses	<u>\$338,650</u>

The estimated revenues for this year are:

Freight wheat haul	\$210,000
Other freight	69,000
Passengers	40,000
Express	4,000
Mail and telegraph	5,500
Miscellaneous	6,500
Total estimated revenues	<u>\$335,000</u>

While the operating expenses do not include maintenance and interest charges, and a portion of the freight includes traffic handled for Churchill by the government, such a satisfactory showing in the railway's infancy must be considered gratifying.

Cost of Hudson Bay Project

THE total expenditure to December 31, 1932, on the Hudson Bay project, including that incurred at Port Nelson, prior to the establishment of the terminus at Churchill, has been as follows:

1. Railway	\$31,194,693.25
2. Port Nelson terminals.....	6,274,217.88
3. Churchill terminals	11,606,120.97
Total	\$49,075,032.10

As regards the above expenditure it should be reiterated that certain lands were set apart in Manitoba, Saskatchewan and Alberta, which were sold for the purpose of building the Hudson Bay Railway, and the proceeds were paid into the Federal Treasury. True, the lands were set aside before the natural resources were turned over to the provinces, but the fact remains that the West has made very considerable and valuable contribution to the construction of the railway.

During the ten years the provisions of the law as to the pre-emption and purchase were in force, the Department of the Interior disposed of pre-emptions approximating 12,763,040 acres, including entries since cancelled, and, as purchased homesteads, 1,322,840 acres approximately, including entries since cancelled.

The lands were sold at \$3 per acre. The total sum for which these lands were sold was: pre-emptions; \$38,289,120, approximately; purchased homesteads, \$3,968,520, approximately.

Amounts actually received up to February 28, 1930, on account of these purchases have been:

Pre-emptions	\$18,697,346.35
Purchased homesteads	3,294,840.42
Total	\$21,992,186.77

The balance owing by purchasers is:

Pre-emptions	Approximately \$3,000,000
Purchased homesteads	150,000

Shipping Report

1931 SEASON

THE Hudson Bay route for overseas mercantile marine trade may be said to have been inaugurated in 1931 when the S.S. "Farnworth" and S.S. "Warkworth" owned by R. S. Dagliesh Ltd., Newcastle-on-Tyne, were loaded at Churchill in September with 277,000 and 267,769 bushels of grain respectively. These trial shipments were attended with every success. The actual loading time on the steamers was 38 hours, including trimming of the grain.

The S.S. "Farnworth" sailed from the Tyne for Churchill on August 28, 1931; entered Hudson strait on September 6; arrived at Churchill on September 10; sailed from Churchill for London on September 18; passed out of Hudson strait on September 22, and arrived at London on October 4.

The S.S. "Warkworth" sailed from Montreal, September 1, 1931; entered Hudson strait on September 7; arrived at Churchill on September 11; sailed from Churchill for Antwerp on September 22; passed out of Hudson strait on September 26, and arrived at Antwerp on October 7.

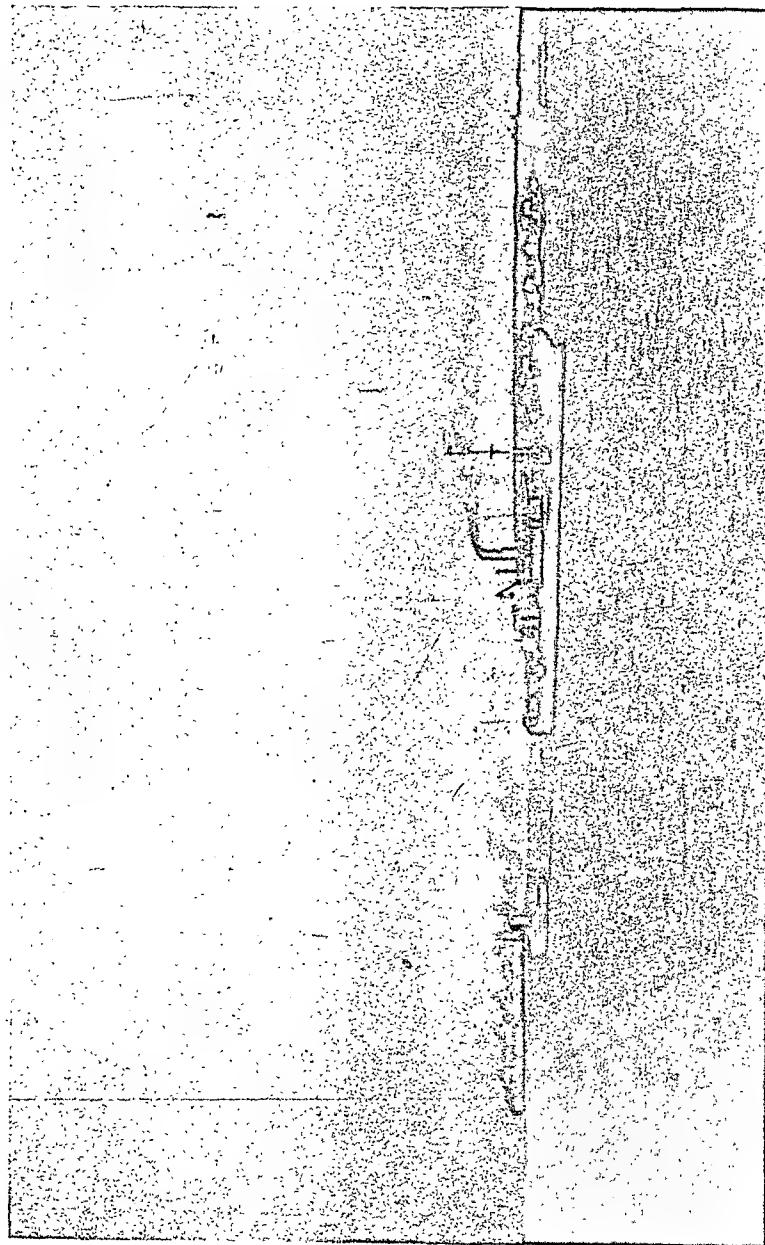
1932 SEASON

The following ten ocean-going steamers sailed to and from Churchill during the 1932 season:

Steamer	Nationality	Registered tonnage
S.S. Pennyworth	British.....	5388
S.S. Silksworth	"	4921
S.S. Thomas Walton	"	4460
S.S. Grethead	"	4274
S.S. Brightfan	"	3791
S.S. Rio Claro	"	4086
S.S. Pensilva	"	4258
S.S. Pietro Campanello	Italian	6140
M.S. Juventus	"	4920
S.S. Sierentz	French.....	5207

All the above steamers arrived in ballast, and carried full cargoes of wheat outwards, with the exception of S.S. "Pennyworth" which brought inward 430 tons of general cargo, and took outward 881 tons of Robin Hood (Moose Jaw) cereals and flour in addition to her cargo of wheat. The latter flour and cereal shipment was the first to leave Canada through Churchill. It reached London in the record short time, from the prairies, of a little over two weeks, and the flour was reported "the freshest flour that has ever been landed in Great Britain."

S.S. "FARNWORTH" OUTWARD BOUND FROM CHURCHILL, SEPTEMBER 18th, 1931



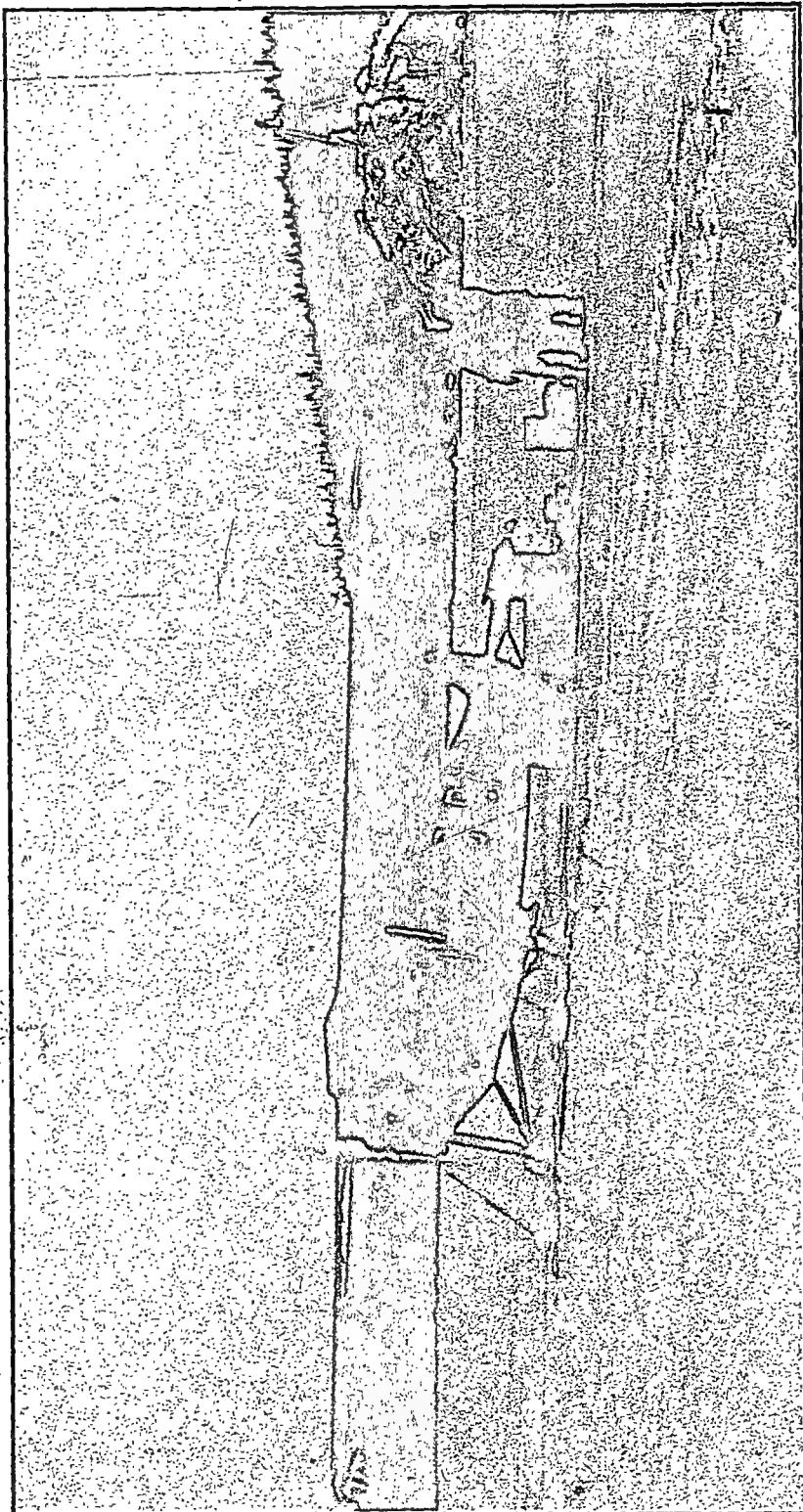
The following are details of the times of arrival and departure of the various steamers in 1932, and their outward cargoes of grains:

Name of Ship	Entered Hudson Strait	Arrived Port Churchill	Left Hudson Strait	Cargo in Bushels
S.S. Sierentz	Aug. 10 6 a.m.	Aug. 14 2:15 p.m.	Aug. 17 8 p.m.	280,013
S.S. Pennyworth	Aug. 13 3:30 p.m.	Aug. 17 10:30 a.m.	Aug. 24 12:15 p.m.	255,700
S.S. Sylksworth	Aug. 22 2 p.m.	Aug. 29 7:30 a.m.	Sept. 4 7 p.m.	288,000
S.S. Thos. Walton	Aug. 26 6:30 a.m.	Aug. 30 2 p.m.	Sept. 3 9 p.m.	280,000
S.S. Cirelhead	Sept. 3 4:30 a.m.	Sept. 8 2:30 p.m.	Sept. 9 1:30 p.m.	264,000
S.S. Pietro Campanello	Sept. 11 12 p.m.	Sept. 18 11:40 a.m.	Sept. 25 1:15 a.m.	311,000
S.S. Brightfan	Sept. 15 5:30 a.m.	Sept. 19 11:40 a.m.	Sept. 25 1:30 p.m.	252,992
S.S. Rio Claro	Sept. 16 6 a.m.	Sept. 19 4 p.m.	Sept. 23 11:30 a.m.	268,000
M.S. Juventus	Sept. 27 12 a.m.	Oct. 1 9:40 a.m.	Oct. 4 9 a.m.	265,658
S.S. Pensilva	Oct. 2 2 p.m.	Oct. 9 4 p.m.	Oct. 14 1:30 p.m.	270,666
			8:15 a.m.	
				TOTAL 2,736,029

1933 SEASON

The first steamer advertised for 1933 is one of the fleet of the Dalglesh line, the S.S. "Pennsworth," leaving Glasgow July 17, Newcastle-on-Tyne July 24, and Antwerp July 27, being due at Churchill about August 13, and leaving again about August 18.

TRANSPORTING SUPPLIES IN THE HUDSON BAY REGION



Aids to Navigation

WHILE the Hudson Bay route offers no particular navigational difficulties apart from fog and ice, yet the Federal government realizes the obvious importance of providing satisfactory aids to navigation to reduce to a minimum such risks as might cause anxiety to shipowners, underwriters, and others interested. The following aids to navigation have already been provided.

Radiotelegraph stations. In Hudson strait and bay are five government owned radiotelegraph stations, four of which are equipped with direction-finding apparatus. Following representations that a direction-finding station be established on the west side of Hudson bay to give cross bearings with Churchill, it is proposed also to equip Chesterfield with direction-finding equipment. Particulars of these stations are as follows:

Station	Call Sign	Wave (see footnote)		Position	
		Metres	K/cs.	Latitude North	Longitude West
*Churchill	VAP	600	500	58°46'32"	94°10'31"
*Nottingham island	VCB	600	500	63°06'48"	77°56'18"
*Cape Hopes Advance	VAY	600	500	61°05'12"	69°33'24"
*Resolution island	VAW	600	500	61°18'00"	64°53'24"
‡Chesterfield inlet	VBZ	600	500	63°19'09"	90°36'00"

All stations maintain watch on 600 metres (500 K/cs.). Direction-Finding Bearings are dealt with on 800 metres (375 K/cs.) after communication has been established on 600 metres (500 K/cs.).

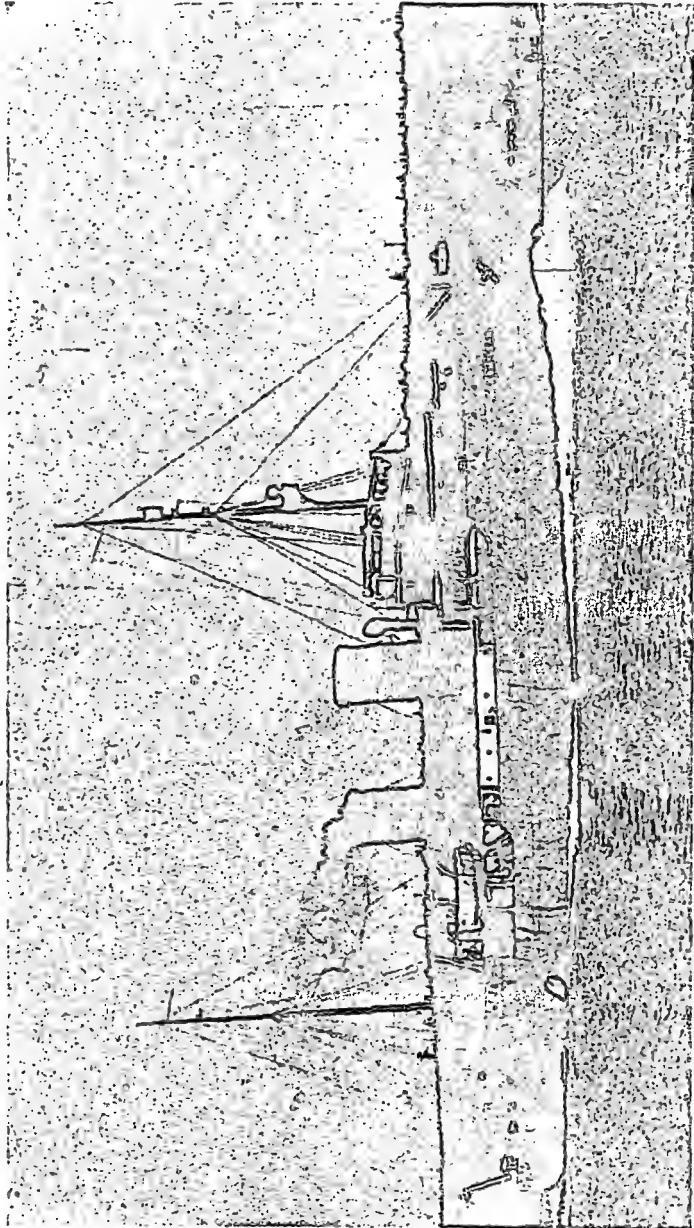
*—Combined Coast and Direction-Finding Station.

‡—Coast Station—position approximate.

Fuller details of radio aid to navigation service are given in the list of Radio Stations of Canada, issued annually by the Director, Radio Branch, Department of Marine, Ottawa. Supplements to the annual list are published several times throughout the year, and should be obtained and consulted for the latest change in radiotelegraph aids to navigation.

Patrol ship. The Canadian Government owns and operates the large, powerful, patrol and ice-breaking steamer, "N. B. McLean," which is the most modern and efficient ice-breaker in the world. She is stationed in the straits at the opening of navigation each year, and remains there until navigation closes.

This steamer is completely equipped with radiotelegraph and radio-telephone apparatus and maintains constant watch on a wave length of 600 metres (500 K/cs.), call sign C G S N.



CANADIAN GOVERNMENT STEAMER "N. B. MCLEAN," HUDSON STRAIT PATROL SHIP
Gross tonnage 3255 Length B.P. 260 ft.
Breadth moulded 31 ft. I.H.P. 6500
Depth moulded 60 ft. Fuel oil capacity 1596 tons

The leading dimensions of the "N. B. McLean" are as follows:

Length (B.P.)	260 feet
Breadth (moulded)	60 feet
Depth (moulded)	31 feet
Gross tonnage	3,253 tons
Indicated horse-power	6,500
Fuel oil capacity	1,596 tons

The vessel has twin screws, and is equipped with a patent towing winch and carries both steel wire and manilla towing hawsers.

She carries as part of her regular equipment a diver and complete diving apparatus, a powerful search light, two 7-ton derricks and two motor launches.

The following salvage gear is also carried:

- 1 Dake Centrifugal pump, 10 inches.
- 1 Smart Turner Centrifugal pump, 8 inches.
- 1 Duplex pump, 6 inches.

All the above equipped with lifting rings, flexible suction and discharge pipes, foot valves, syphons and all necessary auxiliaries.

One hundred and fifty feet of bronze flexible steam hose with connections.

A complete set of patching gear, shores, turnbuckles and all necessary tools.

Tugs and salvage plant. In addition to the "N. B. McLean," with her salvage gear, etc., there are two tugs, reinforced for ice, stationed at Churchill, and one of these, the "Ocean Eagle," is equipped with salvage plant.

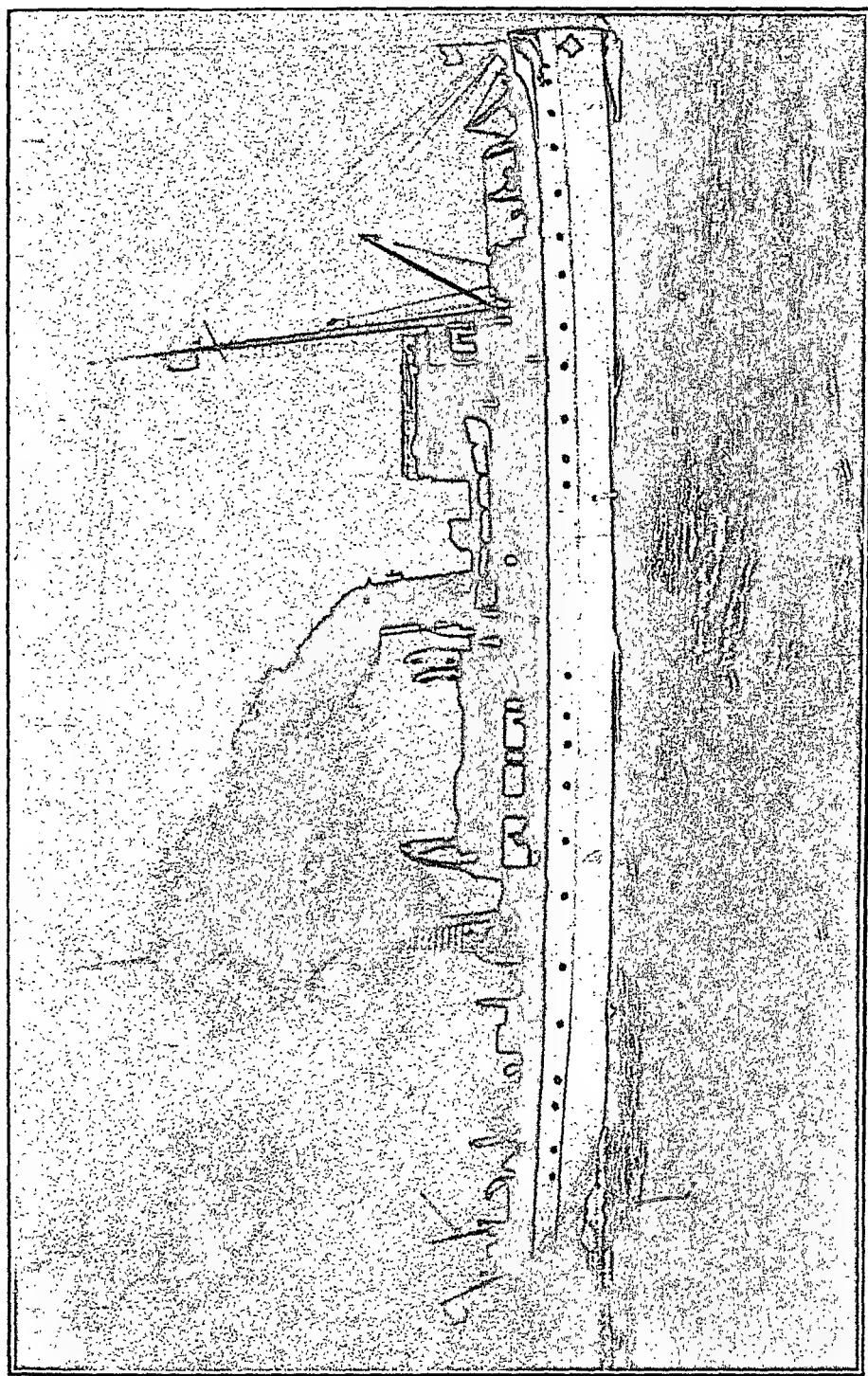
Hydrographic service. The Canadian Hydrographic Service, Department of Marine, Ottawa, continues its charting operations in the vicinity of Hudson strait. Navigation charts, sailing directions, and tide tables can be secured from them.

Weather and ice reports. Weather forecasts, ice reports, and reports on aids to navigation pertaining to Hudson bay, Hudson strait and that portion of the northern Atlantic adjacent thereto, are broadcast daily and handled free of charge by the government radiotelegraph stations in Hudson strait and at Churchill.

Navigation lights. The Lighthouse Board of Canada recommends the establishment of lights, and these are being provided from time to time as considered necessary and desirable. The following are now in service:

LIGHTS					
Location	Lat.	Position	Long.	Character	Elevation
Resolution island	61° 18'28"		64° 53'16"	Flashing	129 ft.
Cape Hopes Advance	61° 05'14"	69° 33'23"		White square, wooden lantern on	
*Wales island	61° 51'37"	71° 58'19"		wooden skeleton base. One flash	
*East end of Charles island	62° 56'40"	73° 56'09"		every 10 sec.	
*West end of Charles island	62° 52'30"	74° 40'00"		On unpainted wooden pole.	270 ft.
*Nottingham island	63° 05'48"	77° 56'55"		On steel skeleton tower.	280 ft.
*Coats island	62° 10'00"	83° 08'00"		On wooden pole.	150 ft.
*Hubhart point	59° 21'00"	94° 40'00"		On a pole adjacent to white rectangular slatted daymark.	45 ft.
*Unwatched.				On unpainted wooden pole.	45 ft.

CANADIAN GOVERNMENT STEAMER "ACADIA," HYDROGRAPHIC SURVEY SHIP



Distance Tables

From—	To Liverpool
Churchill	2,936
Montreal	
Via Belle Isle straits	2,760
Via Cabot straits	3,007
Halifax	2,490
Saint John, N.B.	2,756
Vancouver	8,547
New York	3,040

DISTANCES FROM PRINCIPAL WESTERN CANADIAN POINTS

TO LIVERPOOL

From—	Via Montreal (Great Lakes route)	Via Churchill
Regina	4750	3777
Saskatoon	4878	3750
Moose Jaw	4792	3821
Winnipeg	4393	3919
Portage la Prairie	4449	3874
Brandon	4527	3873
Calgary	5226	4182
Edmonton	5224	4082

The advantage gained by the shorter rail haul will be seen from the following figures showing the distances from principal western Canadian points to Churchill as compared with Montreal:

From—	Churchill	Montreal	Montreal via Great Lakes
Regina	841 miles	1713 miles	1990 miles
Saskatoon	814 "	1828 "	2133 "
Moose Jaw	885 "	1756 "	2032 "
Winnipeg	993 "	1357 "	1633 "
Portage la Prairie	938 "	1412 "	1689 "
Brandon	937 "	1492 "	1767 "
Calgary	1246 "	2260 "	2466 "
Edmonton	1146 "	2158 "	2464 "

ALL-RED ROUTE

Churchill, and the junction of the Hudson Bay Railway with the Canadian National and Canadian Pacific railway systems, provides the shortest All-Red Highway round the world, as the following figures disclose:

England to Asia:

Via Suez Canal.....	16,000 miles
Via New York and San Francisco.....	11,000 "
Via Churchill.....	8,000 "

Schedules of Comparative Freight Rates

The following tables indicate the very substantial reduced freight rates which are obtainable on farm products and general merchandise routed via Churchill, with consequent large savings to the patrons of the Hudson Bay route. Some of the principal distributing centres are cited by way of illustration.

GRAIN

From—	To Churchill	To Fort William	To Vancouver
Rates in cents per 100 lbs.			
Yorkton, Saskatchewan	19	19	29
Prince Albert "	20	23	25
North Battleford "	22	23	24
Saskatoon "	21	22	24
Humboldt "	20	22	26
Regina "	22	20	26
Moose Jaw "	22	20	25
Winnipeg, Manitoba	23	14	No export rate
Brandon "	23	16	No export rate
Swan River "	19	19	No export rate
Calgary, Alberta	26	26	20
Edmonton "	25	26	20

GENERAL MERCHANDISE

	Class rates in cents per 100 lbs. Governed by Canadian Freight Classification							
	1	2	3	4	5	6	7	10
Regina								
From Churchill	236	197	158	119	107	92	63	54
From Montreal								
All rail	358½	298	241½	185½	155	137	103½	94½
Rail-lake-and-rail	333½	278	227½	175½	149	132	98½	89½
Lake and rail	323½	270	220½	169½	144	128	95½	86½
Saskatoon								
From Churchill	230	192	153	116	104	90	62	53
From Montreal								
All rail	385½	321	259½	198½	168	149	110½	100½
Rail-lake-and-rail	360½	301	245½	188½	162	144	105½	95½
Lake and rail	350½	293	238½	182½	157	140	102½	92½
North Battleford								
From Churchill	246	206	165	125	111	96	66	56
From Montreal								
All rail	406½	337	273½	207½	177	157	116½	106½
Rail-lake-and-rail	381½	317	259½	197½	171	152	111½	101½
Lake and rail	371½	309	252½	191½	166	148	108½	98½

Prince Albert									
From Churchill	219	183	147	110	98	84	59	50	
From Montreal									
All rail	396½	330	265½	203½	173	152	113½	103½	
Rail-lake-and-rail	371½	310	251½	193½	167	147	108½	98½	
Lake and rail	365½	305	247½	190½	163	146	108½	96½	
Yorkton									
From Churchill	207	173	138	104	93	80	56	47	
From Montreal									
All rail	340½	283	228½	176½	147	130	98½	89½	
Rail-lake-and-rail	315½	263	214½	166½	141	125	93½	84½	
Lake and rail	305½	255	207½	160½	136	121	90½	81½	
Moose Jaw									
From Churchill	246	206	165	123	111	96	66	56	
From Montreal									
All rail	369½	307	247½	191½	161	143	106½	97½	
Rail-lake-and-rail	344½	287	233½	181½	155	138	101½	92½	
Lake and rail	334½	279	226½	175½	150	134	98½	89½	
Swift Current									
From Churchill									
(Via Moose Jaw)	311	262	209	156	141	122	86	73	
From Montreal									
All rail	390½	324	261½	201½	171	151	112½	101½	
Rail-lake-and-rail	365½	304	247½	191½	165	146	107½	96½	
Lake and rail	355½	296	240½	185½	160	142	104½	93½	
Weyburn									
From Churchill	251	209	167	126	114	98	68	57	
From Montreal									
All rail	352½	294	235½	182½	152	134	100½	92½	
Rail-lake-and-rail	327½	274	221½	172½	146	129	95½	87½	
Lake and rail	317½	266	214½	166½	141	125	92½	84½	

LIVESTOCK

From—	To Montreal	To Churchill	Savings via Churchill
Rates per car of 20,000 lbs.			
Union Stock Yards,			
St. Boniface	\$170	\$116	\$ 54
Brandon	176	112	64
Swan River	202	94	108
Yorkton	202	96	106
Prince Albert	227	100	127
North Battleford	227	108	119
Saskatoon	225	102	123
Regina	214	104	110
Moose Jaw	221	108	113
Edmonton	229	126	103
Calgary	229	132	97

Note.—Average reduction is \$102.18 per car
or 51.09c per 100 lbs.

Tariff References:

Montreal Rates—C.F.A. Tariff No. 116.

Churchill Rates—C.N.R. Tariff No. W. 400-G., and No. W. 244-B.

BUTTER AND DRESSED POULTRY

From—	To Montreal		To Churchill		Savings in Rates	
	Cents per Dollars	100 lbs. per car	Cents per Dollars	100 lbs. per car	Cents per Dollars	100 lbs. per car
Winnipeg	161	\$ 805	165	\$825
Brandon	184	920	161	805	23	\$115
Swan River	197	985	131	655	66	330
Yorkton	194	970	134	670	60	300
Prince Albert	228	1140	138	690	90	450
North Battleford	232	1160	153	765	79	395
Saskatoon	220	1100	147	735	73	365
Regina	205	1025	147	735	58	290
Moose Jaw	210	1050	153	765	57	285
Edmonton	246	1230	182	910	64	320
Calgary	246	1230	188	940	58	290

Note.—Carload minimum weight to Montreal is 50,000 lbs., and same is used to Churchill in this rate comparison.

Actual carload minimum weight to Churchill is 20,000 lbs.

The average freight rate reduction to Churchill on these commodities is \$286.82 per car or 57.36 cents per 100 lbs.

Tariff References:

Montreal Rates—C.F.A. Tariff No. 104-G.

Churchill Rates—C.N.R. Tariff No. W. 400-G., and No. 134-C.

EGGS

From—	To Montreal		To Churchill		Savings in Rates	
	Cents per Dollars	100 lbs. per car	Cents per Dollars	100 lbs. per car	Cents per Dollars	100 lbs. per car
Winnipeg	124½	\$342.37	123	\$338.25	1½	\$ 4.12
Brandon	142½	391.87	120	330.00	22½	61.87
Yorkton	150	412.50	101	277.75	49	134.75
Prince Albert	175½	482.62	104	286.00	71½	196.62
No. Battleford	176½	485.37	116	319.00	60½	166.37
Saskatoon	168½	463.37	110	302.50	58½	160.87
Regina	157½	433.12	110	302.50	47½	130.62
Moose Jaw	163	448.25	116	319.00	47	129.25
Edmonton	187½	515.62	135	371.75	52½	144.37
Calgary	187½	515.62	141	387.75	46½	127.87

Note.—Minimum C.L. weight to Montreal is 27,500 lbs., and same is used to Churchill in this rate comparison.

Actual minimum C.L. weight to Churchill is 24,000 lbs.

Tariff References:

Montreal Rates—C.F.A. Tariff No. 104-G.

Churchill Rates—C.N.R. Tariff No. W. 134-C.

Public Service Branch

The following resolution was unanimously adopted by the Saskatchewan Legislature on February 14, 1933:

"That this assembly request the government to urge upon the Dominion government the necessity of immediately setting up a branch of its public service to fully investigate rail, marine and insurance rates having as its object the promotion of shipping and trade in and out of Port Churchill and that the said branch should function as a clearing house for information relative to all shipping and commerce in Hudson bay and strait."

The foregoing resolution has been forwarded to the government at Ottawa, where it is under consideration. Hitherto they have taken the stand, so far as the solicitation of traffic is concerned, that Churchill cannot very well be singled out as an exception when similar work is not done in connection with any other Canadian port. However, as is elsewhere noted, this work has been undertaken by the Saskatchewan Government.

The other matters referred to in the resolution have been pressed for action.

Routing Orders

To assist in securing westbound traffic via Churchill, it will prove most helpful if business interests, when ordering goods overseas, will issue routing instructions as per the appended specimen.

SPECIMEN ROUTING ORDER

Name of Consignee.....

Address

Date..... 19.....

Name of Shipper.....

Address

Gentlemen:

Please route our order..... of 19.....
for (Commodity),
via CHURCHILL and HUDSON BAY ROUTE.....
To be packed as follows.....
Please advise us immediately upon the forwarding of the shipment.

Signature.....

The Loss of S.S. "Brightfan"

NEGLECT of the simple rule of navigation to keep a proper look-out was the cause of one unfortunate shipwreck on the Hudson Bay route in 1932. The equipment provided by the government for the safety of shipping in the locality was found by the court of inquiry to have been free from defect and distinctly helpful and useful.

The British S.S. "Brightfan," of 2,357 tons net, sailed from Churchill, on 25th September, 1932, with a cargo of 6,776 tons of wheat, bound for Queenstown for orders. On September 30th, 1932, she was at the western end of Hudson strait and was proceeding under wireless direction through the strait eastward. On 1st October, 1932, at 4.40 a.m. ship's time, she came in collision with an iceberg or "growler" some distance north of Wales island, sank, and became a total loss. Her crew, comprising in all 31, were rescued and brought to Churchill.

Pursuant to a Commission issued by the Federal government, the Honorable Humphrey Mellish, local judge in admiralty for the district of Nova Scotia, with the assistance of Captain L. A. Demers, dominion wreck commissioner, and Captain W. F. Mitchell, supervising examiner of masters and mates, as nautical assessors, held an investigation at Ottawa, commencing October 19th, 1932, into and concerning this shipping casualty.

Messrs. W. J. Tupper, K.C., W. C. Hamilton, K.C., and J. A. Campbell, K.C., with Mr. E. Hawken, assistant deputy minister of marine, appeared on behalf of the Dominion government; Mr. Errol M. McDougall, K.C., for the master, first and second officers of the S.S. "Brightfan," and Mr. Lucien Beauregard, K.C., for the owners of the S.S. "Brightfan," The Fancott Shipping Company.

The following are the questions submitted by Mr. W. J. Tupper, K.C., on behalf of the Dominion government, for the opinion of the court; and the answers given by the court:

Q. (1) When and for what sum was the S.S. "Brightfan" purchased by her owners? What was her value at the time of her loss? What insurances were effected upon and in connection with the ship?

A. (1) As to the first question we have not the material under the evidence upon which an answer can be given.

Q. (2) What number of compasses had the vessel; were they in good order and sufficient for the safe navigation of the vessel, and when and by whom were they last adjusted?

A. (2) There were three compasses on the vessel presumably in good order and condition. They were last adjusted on 13th April, 1932, by Blair, of Cardiff, and the ship was later swung by the master twice.

Q. (3) Did the master ascertain the deviation of his compasses by observation from time to time; were the errors correctly ascertained and the proper corrections to the courses applied?

A. (3) Answered in the affirmative.

Q. (4) Was the vessel fitted with direction-finding equipment? If so, was it in good and proper condition?

A. (4) Answered in the affirmative.

Q. (5) Was the vessel in all respects in a good and seaworthy condition when she left Churchill on the 25th September? If not, in what respect was she lacking?

A. (5) Answered in the affirmative.

Q. (6) Was the vessel supplied with proper and sufficient charts and sailing directions as available at Churchill, particularly respecting the Hudson bay and strait?

A. (6) The vessel was supplied with proper and sufficient charts and sailing directions respecting the locality to be traversed although the master obtained no such charts or directions at Churchill.

Q. (7) What were the weather conditions existing from 6 p.m. of 30th September until and at the time of the vessel striking the iceberg?

A. (7) Fine weather.

Q. (8) Did the master receive any advice by wireless on entering the Hudson strait from the sea and/or on the 30th September last, as to the best route to follow in proceeding through Hudson strait? If so, from whom, and was due consideration given at all times to such advice?

A. (8) The master received such advice on entering the strait in coming to Churchill and on 30th September when returning. This advice was received from the Dominion government S.S. "N. B. McLean" and due consideration seems to have been given at all times thereto.

Q. (9) What was the position of the vessel at the time of the receipt of such advice on the 30th September? Were proper and adequate measures taken by the master following receipt of such advice to ascertain and verify the position of the vessel?

A. (9) (This question and question 10 apparently refer to the passage of the vessel outward through Hudson strait, and they are answered accordingly).

The ship was then at the western entrance to Hudson strait on 30th September and due steps were taken by the master to fix his position.

Q. (10) What alterations, if any, were made in the course following receipt of this advice and until the time of the vessel striking the iceberg?

A. (10) The first advice relevant to this question was received about 8.55 p.m. on 30th September by wireless from Captain Balcom, of the C.G.S. "N. B. McLean." After this the course was altered one point eastwardly at about 4.05 a.m. of 1st October.

Q. (11) Were bearings obtained by wireless from any direction-finding stations or from the C.G.S. "N. B. McLean" from noon of 30th September last until the time of the casualty? If so, what were they and how did such bearings compare with the approximate position of the vessel from time to time?

A. (11) Bearings were so obtained as disclosed in the evidence written in the log book of the wireless operator of the S.S. "Brightfan" and such bearings fairly indicated the actual position of the vessel from time to time.

Q. (12) Were proper and sufficient measures taken to check the position of the ship by wireless bearings, including bearings taken by means of her own direction-finding apparatus?

A. (12) Such measures were taken to check the ship's position but apparently not by the S.S. "Brightfan's" own apparatus for direction finding.

Q. (13) Was the vessel navigated in a proper and seamanlike manner from the time of leaving Churchill until the time of the casualty?

A. (13) Yes, except as hereinafter indicated.

Q. (14) Was a good and proper look-out maintained on board at all times after leaving Churchill?

A. (14) No. The court thinks that a proper look-out was not kept on the "Brightfan." There was no expressly appointed look-out and for some minutes before the collision with the iceberg apparently the only person on the ship who had any opportunity of seeing the approach of danger was the helmsman, an apprentice of 18 years of age.

Q. (15) Was the vessel proceeding at a safe and proper speed having in view the state of visibility, from midnight of 30th September to the time of the casualty?

A. (15) The ship was proceeding at full speed but having regard to the visibility, as to which the evidence is not very satisfactory, the court is not prepared to find that the speed was excessive.

Q. (16) What was the cause of the vessel striking the iceberg?

A. (16) As indicated by the answer to question 14, a good and proper look-out was not maintained on board the "Brightfan" and this was especially so for some time before the iceberg was seen, and the court is of opinion that if such a look-out had been kept the collision would probably not have taken place.

Q. (17) What was the cause of the loss of the S.S. "Brightfan?"

A. (17) The cause of the loss of the "Brightfan" was the collision referred to.

Q. (18) Was the casualty to and/or loss of the S.S. "Brightfan" caused through the wrongful act or default of the master, first officer, second officer or any other member of the crew of the S.S. "Brightfan," or any or more of them and, if so, which of them?

A. (18) The court cannot too strongly intimate that a look-out should be maintained under all circumstances by some person or persons whose sole duty for the time being is to keep a look-out. It appears that such was not the practice of this ship. Under the circumstances disclosed in this case the court regrets that it is unable to exonerate the master and first officer of the "Brightfan" from default contributing to the loss of the ship in failing to see that such a look-out was maintained.

Although no specific question has been submitted in respect thereto, the evidence raised some points as to which it is perhaps proper an opinion should be expressed.

In the first place the court is of opinion that there is no evidence on which to conclude that the loss of the ship can in any degree be attributed to the improper use of intoxicating liquors—indeed the evidence would lead to a distinctly contrary conclusion.

In the next place, it cannot on the evidence be said that the loss was in any way contributed to by any defect in the equipment furnished for

the safety of shipping in the locality. Indeed—such equipment has in the court's opinion, been shown to be distinctly helpful and useful.

Read in open court at Ottawa this 25th day of October, 1932.

—H. MELLISH, Judge.

Concurred in by—

L. A. DEMERS,
W. F. MITCHELL,
Nautical Assessors.

I may also add that my Assessors, who concur in what has just been read, have expressed an opinion which I take the opportunity of filing with this report as follows:

It being disclosed in the evidence that the master kept a regular watch from 8 to 12 a.m. and p.m. along with the other two officers, it is felt that this system cannot be too strongly condemned.

If it is necessary, or desirable, for three watches to be kept on board ship, three regular certificated watch keeping officers should always be part of the ship's complement.

Read in open court at Ottawa this 25th day of October, 1932.

Concurred in by—

L. A. DEMERS,
W. F. MITCHELL,
Nautical Assessors.

A Synopsis of Hudson Bay Route Matters

SPEAKING in the Saskatchewan legislature on February 15, 1933, Hon. J. A. Merkley, Minister of Railways, Labour and Industries, gave a synopsis of the various matters affecting the Hudson Bay route. The following is a portion of his speech:

"It is my purpose today to refer only to the subject mentioned in the speech from the throne with which I have the honor to be charged as Minister of Railways, Labour and Industries, namely, the Hudson Bay route, but must remark at the outset that I am sure the other matters mentioned will also receive the serious and sympathetic consideration they deserve, recognizing as we all must the serious efforts we have made in various directions to find satisfactory solutions for the serious problems confronting our province and the government.

* * *

HUDSON BAY ROUTE

"In dealing with the question of the Hudson Bay route I would like at the outset to thank all those interested for their support and co-operation in the work the government is doing, and for their good wishes for the future.

"As stated in the speech from the throne, the government through my department has set up an organization to undertake important activities (both here and on the other side of the Atlantic) looking to the development of the Hudson Bay route, and every effort is being made to popularize the route, and to secure as much traffic as possible for steamers plying to and from Churchill next season.

"I do not intend to go into the details again regarding the Bay route, with which you are familiar. The project, I am glad to say, has been received with general approbation in western Canada, and signs are not wanting that eastern sentiment is increasing in its favor.

"Coming to recent times, the project did not begin to assume proportions until the 1931 season of navigation, when two cargoes of our wheat, totalling 544,769 bushels, were exported overseas via Churchill.

"Last year, 1932, ten steamers left Churchill with approximately 2,736,000 bushels of grain for the United Kingdom and the Continent. About 430 tons of general cargo of various commodities were imported, and 881 tons of cereals and flour were exported, on the S.S. "Pennyworth." It is gratifying to be able to report that the shippers and consignees have expressed complete satisfaction with the movement of their goods via Churchill and have promised to continue their patronage of the route.

"There is no doubt that, despite depressed business conditions, this year will witness a larger volume of traffic through Churchill. This is the target we are aiming at, and with the full co-operation of everybody, especially importers and exporters, we should establish a record in 1933. Of course, we must remember that it takes time, patience, and much hard

work. There are essential difficulties in the development of all great ideas and schemes, but if we keep our ideal always before us we will win out.

"The test shipments which have been made through Churchill to date demonstrate beyond any question the feasibility of the route, and that it is commercially and economically sound. It gives the west closer and more profitable connection with our overseas markets.

"One of the most difficult problems to be surmounted is that of securing adequate west-bound cargoes for the ships. Shipowners naturally expect to operate their tonnage without losses, and look for revenue on the westbound leg of the trip instead of sending their ships over in ballast. The Hudson Bay route must be made a two-way proposition, and we are hopeful that the business interests will issue routing instructions to help achieve this very desirable result.

"It must be borne in mind that ships are free to seek markets anywhere they are thought profitable. To secure for the Hudson Bay route regular and dependable steamship sailings and the type of steamers we require, adequate cargoes must be available. Ships we must have. Maritime commerce is not possible without them.

"Looking through the historical records, for centuries we find that shipping has played an important part in the prosperous development of the Old World, and we know especially what an important factor the British mercantile marine has been in placing Great Britain at the zenith of its commercial power. Now that we have a seaport—Churchill—in the centre of our Dominion, it behoves us to exert every effort to cultivate this artery for the promotion and development of our international trading.

"As I have already indicated, the cost of transport in time and money is greatly lessened via Churchill, and we must develop the Bay route to the point where the traffic inducements will justify shipowners operating regular and continuous service. I make a very earnest appeal to all our business interests, large and small, to continue to take an active interest in the Hudson Bay route, and especially route inward traffic that way, so that freight instead of ballast will be provided, and the necessary steamships will be forthcoming to care for the transport of our cattle, grain and other products outwards to the world's markets through the most economical route. This will increase the purchasing power and prosperity of our farmers, and, as we all know, on their prosperity depends in large measure the prosperity of the country. And I would like to add and emphasize this—the rule is that when our farmers are prosperous our railways prosper, both systems, Canadian National and Canadian Pacific, and the sales of manufactured goods from our eastern and western industrial centres to the prairies are considerably increased, thus benefiting our manufacturers, and again, the railroads.

PART OF CHURCHILL

"Now I come to the port of Churchill itself, and I am sure we all feel grateful for the modern facilities provided by the federal authorities to date. We are now in touch with the responsible ministers at Ottawa on various matters, including terminal, port, and other charges over which they have jurisdiction, and we find them willing and anxious to meet our wishes to

the fullest extent possible, so as to make Churchill an attractive port to shipowners.

"For general information, Mr. Speaker, I would like to indicate the facilities which Churchill offers for the handling of import and export business.

(Here Mr. Merkley outlined the port and other facilities which are enumerated on pages 24 and 26.

"The significance of a port lies in the fact that it is an important link in the chain of transportation—a junction where wheel and keel meet, and where one form of transport is changed for another. Thus ports are of vital interest not only to the transportation interests (ships and rails) but to the people and territory they serve. The importance of the port of Churchill to the prairies and the people of Saskatchewan needs no further comment except to emphasize that we are now laying the foundation for the operation of a port which will occupy a pre-eminent position in our commercial life, and grow more important as the years roll by. We must be careful, therefore, that nothing is done at the inception which will in any way militate against Churchill, and thus handicap our trade and deprive our people of any advantages already secured by the inauguration of the Hudson Bay route. It is common knowledge that high terminal charges or port costs generally increase the expenses incurred by ships and goods, and then, trade leaves for other ports where costs are lower and which are, therefore, more attractive.

"When a shipowner calculates costs at a port he not only reckons the charges made by the port authority, but all the other expenses he has to incur. These include pilotage, towage, wages of labor for handling cargoes, charges for use of cranes and other gear. All these items are being carefully watched; in short we are anxious to secure all the requirements of a first-class modern port for the quick despatch of cargo and steamers at Churchill, and equally anxious that only minimum charges be levied which will prove acceptable to shipowners by comparison with other ports.

MARINE INSURANCE

"At this juncture it will be appropriate for me to say a few words on the question of reduced marine insurance rates. As indicated in the speech from the throne, this important matter is being given our constant attention. It is under advisement by Lloyd's and other underwriters, whom we are pressing for an early decision in regard to favorable rates this year.

"As soon as we receive a reply, I will be glad to communicate it to the House. Meanwhile, I can assure you that the utmost efforts are being made to secure fair and equitable rates on hulls and cargoes using the Bay route, also concessions in regard to the rates of additional premium charged, and extension of dates of arrival and sailing from Churchill so as to prolong the navigation season.

SAILINGS

"I might mention that the Dalgliesh S.S. line and the Hulton steamship line will each operate several vessels in the Churchill trade during the coming season. In addition to these vessels other cargo vessels operated

by Dreyfus & Co., Spillers Milling Co. and others, will, it is anticipated, be loading at Churchill this season.

"The elevator at Churchill is at the present moment filled to capacity with export grain and contains 2,500,000 bushels of Saskatchewan wheat. In addition there are approximately two million bushels of Saskatchewan wheat in storage in the government elevator at Saskatoon awaiting shipment to Churchill on the opening of navigation.

SEASON OF NAVIGATION

"A strong effort is being made to lengthen the season of navigation. The present season extends from about July 25th to October 31st, or 98 days, which is too short to permit of the maximum development of the route.

"It has been stated on several occasions by prominent and qualified men after thorough investigation that the Hudson straits can be navigated with safety in normal seasons from at least July 15th to November 30th, and if the efforts to keep the route open for this period are successful it will lengthen the season to 138 days and thus permit the export and import movement of several times the amount of traffic now possible under the present restricted season, and exorbitant insurance rates.

"The federal minister of marine, Hon. Alfred Duranleau, advises our government that the ice patrol ship "N. B. McLean" will leave Quebec on July 1st, and is due to arrive at Fort Resolution at the eastern entrance of Hudson strait on July 10th. This vessel is the most modern and efficient ice-breaker in the world, fully equipped, including salvage gear.

"The patrol ship "Ocean Eagle" is now stationed at Churchill. She will leave as soon as that port opens, about the end of June, for the purpose of securing and reporting authentic information as to ice and weather conditions then existing at the western end of Hudson strait.

"It is the purpose of the government to publish a handbook regarding the Hudson Bay route containing data relating to it for distribution on both sides of the Atlantic."

Facts About Saskatchewan

Population increased from 195,000 in 1905 to 921,785 in 1931.

Has eight cities, eighty towns, 384 incorporated villages and 302 rural municipalities.

Extends 760 miles from south to north and 393 miles from east to west.

Is larger than any country of Europe, except Russia.

Has an area of 251,700 square miles, or 161,088,000 acres, of which 5,323,520 comprise lakes.

Has a surveyed area of 79,317,890 acres, of which 58,000,000 acres, including 30,085,714 acres under cultivation, are suitable for agriculture.

Has undeveloped natural resources in forest, mine, and prairie, offering splendid opportunities and rewards for the investment of capital, and an unlimited field for enterprise and industry.

The settled areas are served by a network of transportation systems.

Has railway lines totalling 8,690 miles, or one mile for every 106 of the population.

Has 2,045 miles of gravel surfaced trunk highways.

Has 200,000 miles of road allowances in the settled area, including more than 8,000 miles of provincial highway and 25,000 miles of main market roads.

Has a belt of forest approximately 100 miles wide stretching across the province from east to west.

Produces in a normal year approximately one-half of Canada's wheat crop, seventy per cent of Canada's flax crop, and one-half of Canada's rye crop.

In 1928 harvested 321,315,000 bushels of wheat and 156,046,000 bushels of oats, and in 1932 under severe drought conditions harvested 202,000,000 bushels of wheat and 107,400,000 bushels of oats.

Grain growers during 1931 won first prize in the hard red spring wheat classes in international shows, and won 51 of the other 72 prizes offered.

Between 1916 and 1931 won 600 prizes in international shows of field crops, and 258 in national shows.

Has 3,239 country grain elevators with a total capacity of 103,162,850 bushels and two interior grain storage elevators with a total capacity of 11,000,000 bushels.

Has private storage elevators with a capacity of 4,500,000 bushels.

Stands first among the provinces of Canada in the number of horses and mules, and third in the number of cattle, swine, and poultry.

During the last twelve years has won the grand championship of America for Clydesdale stallions ten times.

With a Clydesdale stallion, won the grand championship of America for three consecutive years—a feat never before accomplished on the Continent.

- Between 1920 and 1930 won a grand total of 1,528 prizes for livestock exhibits at international and national shows.
- Won first prize and several other awards at the Royal Agricultural Fair at Toronto in 1930 for honey, and in that year produced 685,551 pounds.
- Has a horse population of more than 1,000,000 and is the premier horse breeding province.
- Produced in 1931, 18,960,352 pounds of creamery butter.
- Marketed in 1932 through the Saskatchewan Poultry Pool 2,181,024 dozen eggs, 1,228,872 pounds of dressed poultry, 196,947 pounds of live poultry.
- In 1930 marketed a wool clip of 1,211,000 pounds.
- Has uncounted lakes teeming with fish of sporting and commercial varieties, also commercial fisheries with an authorized annual take of 10,000,000 pounds.
- Has 214 fur farms providing an annual revenue from pelts and stock of fur-bearing animals of more than \$2,000,000.
- Has 80,000 square miles within the mineralized pre-Cambrian area.
- Has extensive proved deposits of copper, gold, nickel, silver, platinum and iron-ore; talc, glass sands, coal, sodium sulphate, and other precious and base minerals; oil shales and tar sands.
- Has great limestone formations containing structural material of highest excellence.
- Has the greatest sodium sulphate deposit in the world, and in 1931 supplied to eastern Canadian industries 44,447 tons.
- Has a lignite coal area of thousands of square miles, and estimated on survey by test boring to contain more than 60,000,000,000 tons.
- Has great fields of refractory and other clays, immediately adjacent to and sometimes superimposed upon the coal bed.
- Leads Canada in quality and quantity of commercial pottery clay.
- Manufactures highest grade fire clay products and supplies the whole of requirements of Canadian Pacific and Canadian National railways for fire box arches.
- Manufactures a wide variety of high grade clay products, and mined and exported raw clay in 1930 to the value of more than \$500,000.
- Has granted leases for more than 125,000 acres for natural gas and petroleum exploration.
- Exports volcanic ash, and manufactures polishing and cleansing compounds.
- Has important deposits of bentonite and exports large quantities to the paper, rubber, soap, face cream, and oil refining industries.
- Spends annually nearly twenty million dollars on education, and has 4,917 school districts with an enrolment of nearly 222,000 pupils and employing more than 9,000 teachers.
- Has maintained for years the lowest death rate of any country in the world recording vital statistics. The death rate for 1932 was 6.6 per thousand.
- Has 65 government-aided hospitals and 13 outposts, 3 sanatoria and 49 private hospitals and nursing homes.